DOCUMENT RESUME

ED 408 862 FL 024 633

AUTHOR Klesmer, Harold
TITLE Development of ESL Achievement Criteria as a Function of Age and Length of Residence in Canada. E.S.L. Achievement Project.
INSTITUTION North York Board of Education (Ontario).
REPORT NO ISBN-1-55000-434-4
PUB DATE Sep 93
NOTE 131p.; A Special Leave Project.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Academic Achievement; Age Differences; *English (Second Language); *Evaluation Criteria; Foreign Countries; *Immigrants; Intermediate Grades; Junior High Schools; *Language Skills; *Language Tests; *Norms; Second Language Instruction; Student Evaluation
IDENTIFIERS Canada; Length of Residence; *Ontario

ABSTRACT

A Canadian study examined the feasibility of establishing achievement criteria for English-as-a-Second-Language (ESL) students based on their age and length of residence (LOR) in Canada. Such criteria would permit comparisons between the academic and linguistic development of ESL students and that of both Canadian-born, English-speaking students and other ESL students of similar age and LOR. Subjects were 285 ESL students and 43 comparison students, all 12 years old. ESL students were from 38 languages groups and 53 countries of origin, and had lived in Canada 6 months to 6 years. Seven LOR categories were established. Academic/linguistic development of all students was assessed using tests and teacher ratings. Additional information was gathered from student records and parent/guardian interviews. Results suggest it is feasible to establish achievement criteria based on age and LOR. However, English language assessment instruments should be selected carefully. A number of appropriate tests are identified. Achievement patterns found in the assessments are also noted. The study also revealed patterns in the way teachers perceive and assess student progress. Parent/guardian interviews provided information about student background, parental attitudes about their children's linguistic progress, and student characteristics and background variables influencing student achievement. Contains 48 references. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 408 862

E.S.L. ACHIEVEMENT PROJECT

Development of English as a Second Language Achievement Criteria as a Function of Age and Length of Residence in Canada

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Harold Klesmer
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A Special Leave Project
for
The North York Board of Education
by
Harold Klesmer

NORTH YORK SCHOOLS

BEST COPY AVAILABLE

September, 1993

FL 024633

Development of ESL Achievement Criteria

As a Function of Age and Length of Residence

A Special Leave Project

for

The Board of Education for the City of North York

by

Harold Klesmer

NORTH YORK SCHOOLS

The mission of the North York Board of Education is to empower every student to learn, to achieve success, and to participate responsibly in a pluralistic, global society.

ISBN 1-55000-434-4
Copyright ©1994
All rights reserved

E.S.L. ACHIEVEMENT PROJECT

Development of English as a Second Language Achievement Criteria as a Function of Age and Length of Residence in Canada

EXECUTIVE SUMMARY

A Special Leave Project
for
The North York Board of Education
by
Harold Klesmer

NORTH YORK SCHOOLS

September, 1993

E.S.L. ACHIEVEMENT PROJECT

EXECUTIVE SUMMARY

A major challenge confronting assessors of English as a Second Language (ESL) students is that of differentiating early stages of "normal" second language acquisition from weaknesses resulting from non-ESL-related learning deficiencies. What is lacking is an empirically derived basis for determining whether an ESL student is sufficiently behind his/her peers in the oral language skills of speaking and listening and the academic skills of reading and writing to constitute a cause for concern. The importance of this information for evaluating and supporting student achievement is clear.

The primary objective of this study was to determine the feasibility of establishing achievement criteria for ESL students based on their age and length of residence in Canada. Such criteria would permit comparisons between the academic/linguistic development of ESL students and the academic/linguistic development of both Canadian-born, English-speaking students and other ESL students of similar age and similar length of residence (LOR). With the availability of ESL achievement data, assessors could offer more accurate judgments as to the normality of student progress, the existence of possible language-based disabilities (as opposed to normal ESL lags), and the need for remedial intervention. Achievement data could improve understanding of patterns of ESL development for different ages and different areas of achievement. Additional objectives of this study were to examine the way teachers perceive and rate ESL student progress, and to investigate the influence of a variety of background factors on academic and linguistic development.

Three hundred twenty-eight students participated in this project, of which 285 were ESL students and 43 were comparison students. All participants were 12 years of age at the beginning of the study – most were in grade 7. The ESL students came from 38 language groups and 53 countries of origin. They had lived in Canada for time periods ranging from 6 months through 6 years and were divided into seven categories, based on their length of residence. The comparison students were all born in Canada, and their primary language was English.

The academic and linguistic development of all students participating in the study was assessed by individual and group tests and teacher ratings. Background information was derived from the North York Student Information System and from parent/guardian interviews, conducted, whenever possible, in the primary language of the parent/guardian. All data were analyzed by the MECA (Measurement, Evaluation, and Computer Applications) Department at the Ontario Institute for Studies in Education.

Test Results

Data derived from this study suggest that it is indeed feasible to establish achievement criteria for ESL students, based on their age and length of residence. Use of these data should assist teachers, consultants, and assessors in identifying at-risk ESL students, monitoring student progress, and programming more effectively. Some achievement tests are more discriminating than others in evaluating progress

in English as a Second Language at various LOR levels, and it is imperative that tests be selected with care. The present investigation suggests that, for 12 year old ESL students, the following tests are valuable:

Peabody Picture Vocabulary Test (Revised)
Detroit Tests of Learning Aptitude, Word Opposites
Maculaitis Assessment Program, Oral Expression
Maculaitis Assessment Program, Listening Comprehension
Degrees of Reading Power
Test of Written Language, Thematic Maturity
Test of Written Language, Contextual Vocabulary
Test of Written Language, Semantic Maturity
Test of Written Language, Total Score for Spontaneous Writing

Trends observed in the test results included the following. On the measure of receptive vocabulary development, 12 year old students who had lived in Canada from 18 to 23 months scored at the level of children less than 5 1/2 years of age. ESL students who had been in Canada five to six years were found to lag noticeably behind their native-born, English-speaking counterparts on measures of word knowledge, oral expression, listening comprehension, and reading comprehension. Written language skills of ESL students who had resided in their new country for five to six years were also found to lag behind their counterparts, but not to the same extent.

Details about the tests and test results are presented, together with tables of scores, in the full report of the study.

Teacher Rating Scale Results

The investigation also shed light on the way teachers perceive and rate ESL student progress. Teachers tend to rate ESL students as average for their age in speaking, listening, and reading after 24 to 35 months in their new country. Based on teacher ratings of written language, ESL students have almost reached the mean for Canadian born students after 5 to 6 years.

There is strong evidence to suggest that teacher ratings of the language skills of ESL students are inflated. Test results of ESL students in the areas of speaking, listening, reading, and writing, are lower than those of their Canadian-born, English-speaking counterparts even after 5 to 6 years of residence. Over-rating the English language competency of ESL students suggests that teachers are more influenced by everyday, surface communication skills than by less apparent cognitive aspects of their functioning. High ratings may also reflect that teachers are generous in their perceptions of ESL students and want to give them the benefit of any doubt; and that they have not developed sufficient empirical or "intuitive" norms based on the age and length of residence for ESL student achievement.

Teachers tended to rate Canadian-born students slightly higher than middle average, while they rated ESL students, after two years of residence, as average. If ESL students were compared directly to this group, as opposed to a hypothetical mean, none of the ESL groups, even after six years, would have attained the comparison group rating in any of the areas assessed.

When test scores and teacher ratings were compared, highly significant correlations were obtained for all possible combinations. This finding attested to the validity of the test results, teacher ratings, and general methodology employed in this investigation. When teacher ratings of ESL students were correlated with tests purported to measure the same area of functioning as the ratings themselves, strong, positive correlations occurred at six out of the seven LOR levels. Teachers appeared especially adept at rating ESL students during their first year in Canada, and after they had been here 4 years, whether comparing them to Canadian-born, English-speaking students or to other ESL students. Rating the achievement of ESL students who had been in Canada for 1.5 to 2 years appeared to present the greatest challenge for teachers.

Parent Interview Results

This part of the investigation provided background information about the ESL group. Approximately 95% of students participating in this study attended school prior to coming to Canada, the majority on a regular basis and for a minimum of four hours a day. Approximately half had studied at least some English, either at school or outside of school, prior to coming to Canada.

Approximately two-thirds of students came from monolingual homes. After living in Canada for 5 to 6 years, this number decreased to approximately 20%. The data suggest that it takes approximately two years for single language families to begin to introduce a second language into their homes. After six years, 20% of families remain monolingual, while approximately 24% of student homes report that English is their main language.

Most parents (82%) expressed satisfaction with their children's progress in learning English. It would appear that after two years in Canada, English begins to take over as the dominant language of ESL students and after four years more than half are seen by their parents to be more fluent in English than in their first language. However, even after 6 years in Canada, it would appear that English is not yet the most fluent language for more than a quarter of students surveyed.

An attempt was made to determine which background variables had the greatest influence on student achievement. Findings suggested that gender is an important variable influencing spontaneous writing (with females outperforming males), that the educational level of the female parent is an important variable influencing aspects of expressive and receptive language, and that visual reasoning ability is an important variable influencing aspects of writing mechanics (capitalization and punctuation) and reading comprehension. These results must be interpreted with caution since the interaction among the variables has not yet been studied. Further analysis of variable interaction is suggested for the future.

Conclusions

This study focused on 12 year old ESL students whose length of residence in their new country varied from six months through six years. Most were schooled in their native countries, many were exposed to English to some degree before emigrating to Canada, and as a group, their parents were reasonably well educated. The group reflected the immigration pattern prevalent in North York at the time of the study.

Based on the ESL literature and on the findings of this study, there is strong evidence to suggest that the academic/linguistic development of ESL students follows a distinct pattern. It requires years for ESL students to approach native English speakers' norms in a variety of areas; and it appears that, even after six years, full comparability may not be achieved. With this in mind, it would seem prudent to develop separate achievement criteria for these students, based on their age and length of residence in Canada.

Since data derived from this study suggest that it is indeed feasible to establish achievement test criteria for ESL students, based on their age and length of residence in their new country, it is recommended that steps be taken to develop such criteria in a comprehensive fashion. An expanded study would provide criteria applicable to ESL students representing a variety of linguistic backgrounds, age levels, and length of residence. Given the magnitude of this undertaking, participation of institutions and funders outside of the North York Board of Education would be needed, such as other school boards, universities, test publishers, and/or government ministries.

Given that teachers seem to over-rate the English language competence of ESL students, particularly after they acquire everyday conversational skills, it is recommended that teachers be provided with instruction and resources to improve their assessment strategies and their ability to identify students at risk. Evidence suggests that teachers are more adept at identifying students at risk during their first 6 - 17 months of residence than in the immediate period following. Consequently, it may prove advantageous to encourage earlier identification and intervention than is currently the case for ESL students.

As school boards introduce group testing as a tool for assessing student progress and curriculum needs, it is crucial that the English language and literacy development of ESL students be differentiated from those of Canadian-born, English-speaking students. Amalgamating test results creates a distorted statistical mean and is a disservice to both groups: a common standard for all students may reduce language-learning expectations for Canadian-born, English-speaking students, while placing unreasonable expectations on students learning English as a second language. Most important, paying specific attention to the achievement of newly-arrived students for at least six years after their arrival will provide information on which to base curriculum decisions, both for the entire group and for students at risk.

TABLE OF CONTENTS

Acknowledgments i

Abbreviations iii

Introduction 1

Review of Literature 4

- Age and Academic Development 4
- Age and Language Development 6
- Age and Phonological Development 11
- Length of Residence and Second Language Learning 12

Procedure 15

- Overview 15
- Subjects 15
- Tests 19
- Testing Procedures 21
- Examiners 21
- Scorers 22
- Teacher Rating Scale 22
- Parent Interview Form 23
- Interviewers and the Interview Process 23
- Parent Permission Forms 24
- Statistics 24

Results 25

- Test Results by Length of Residence 25
- Percentile Tables for Test Scores by Length of Residence 30
- Teacher Rating Scale Results by Length of Residence 41

Correlation of Test Scores with Teacher Rating Scale Results 46
Parent Interview Results Overall 54
Parent Interview Results by Length of Residence 68
Multiple Regression Analysis - Background Variables Influencing Test Scores 72
Discussion 75
Test Results by Length of Residence 75
Teacher Rating Scale Results by Length of Residence 78
Correlation of Test Scores with Teacher Rating Scale Results 79
Parent Interview Results Overall 85
Parent Interview Results by Length of Residence 88
Multiple Regression Analysis - Background Variables Influencing Test Scores 89
Summary, Conclusions, and Recommendations 92
Appendix A - Teacher Rating Scale for Experimental Group 98
Appendix B - Teacher Rating Scale for Control Group 101
Appendix C - Parent Interview Form 104
Appendix D - Parent Permission Form for Control Group 110
Appendix E - Parent Permission Form for Specific Language Experimental Group 111
Appendix F - Parent Permission Form for Non-Specific Language Experimental Group 112
Appendix G - Order of Tests Administered to Each LOR Group and to Control Group 113
Bibliography 114

ACKNOWLEDGMENTS

Although this Special Leave Project was originally intended to be of one year's duration, it evolved into an extensive and prolonged undertaking requiring approximately three years to complete. During the initial planning stages, an Advisory Committee was struck to help establish the objectives and parameters of the study, and I would like to take this opportunity to thank the Advisory Committee members for sharing their professional expertise and for contributing new ideas which ultimately expanded the original concept of the study. The Advisory Committee members were:

Phil Cassidy, Consultant, Research and Evaluation Services, NYBE
Dr. Jim Cummins, Professor and Department Head, Modern Language Centre, Ontario Institute for Studies in Education
Verna Duncan, Co-ordinator, English as a Second Language/English Skills Development, NYBE
Dr. Ester Krimer, Psychoeducational Consultant, NYBE
Ruth Ann MacKinnon, Psychoeducational Consultant, NYBE
Dr. Marjorie Perkins, Co-ordinating Superintendent, Student and Family Services, NYBE
Dr. Smita Sengupta, Supervisor, Multicultural Services, NYBE
Dr. Chau Tran, Multicultural Consultant, NYBE

Following the planning stage, the cooperation and collaboration of a variety of people were essential during the implementation and analysis stages. While those contributing to the study are too numerous to mention individually, I would like to thank those persons whose contributions were deemed to be of major importance.

Steve Nickou, Analyst with Computer Services, helped develop the computer program which selected the initial pool of student subjects from the North York Board of Education's mainframe computer. Greg Chan helped convert this information from the mainframe computer into a format amenable to computer analysis. He also provided guidance in helping to further select subjects for the study. In the final stages of the study, all the information obtained from the mainframe computer, test results, teacher rating results, and parent interview results had to be computer analyzed. The Measurement, Evaluation, and Computer Applications Department (MECA) at the Ontario Institute for Studies in Education was selected for this task. Sue Elgie, MECA Senior Systems Analyst who was involved in the early stages of the project, provided direction in subject selection and statistical methodology; and Tahany Gadalla, MECA Advanced Educational Computing Analyst, performed the actual statistical analyses and patiently explained their implications, so as to render them understandable and usable. In today's world it is virtually impossible to undertake a study of this nature without computer assistance, and thanks are extended to those persons mentioned above, whose specialized knowledge was indispensable.

Prior to formal testing, preliminary testing was carried out at Cummer Valley Middle School to determine the appropriateness of certain test materials. Laury Otis, Head of Student Services, and Diane White, ESL Teacher, contributed their time and expertise to this task, which revealed that the test materials in question were indeed appropriate -- and this helped lay the foundation for the more formalized testing which followed.

The implementation of the formal testing in this study proved to be a task of Herculean proportions. Not only was it logistically challenging for the testers and for school personnel (including principals, vice-principals, secretarial staff, caretaking staff, regular classroom teachers, and ESL teachers), but it required a blend of competence, stamina, and organizational skills on the part of the testers. Special thanks are offered to Rena Lipsey, Carolyn Olive, Anna Sztabinski, and Felicia Travis, whose efforts extended above and beyond the call of duty.

Interviewing of parents/guardians, in their native language when possible, was a major objective of this project. To achieve this objective, Dr. Smita Sengupta, Supervisor, Multicultural Services, helped arrange for the selection and training of the interviewers. Grateful appreciation is expressed to Smita and to the following-named interviewers, who exemplified the multicultural nature and

multicultural cooperative spirit of the NYBE: Veronica Adu-Bobie, Dganit Bar, Ady Bell, Mitsuko Dazai, Nadia Ekmekji, Sukhsagar Gill, Fauzia Haq, Ponniah Kanagasabapathy, Galina Kaplanas, Charles Leung, Sothy Long, Ebrahim Mashari, Yassin Mohamud, Yen Nguyen, Bharti Ondhia, Key-Nam Ro, Edith Stagni, and Cynthia Zu-Chiu Lai.

Scoring creative writing in an objective manner is a task requiring a great deal of specialized skill and patience. This challenge was taken on by two graduate students at the Ontario Institute for Studies in Education, Katherine Tiede and Marju Toomsalu. I am most grateful to them for displaying efficiency and professionalism in approaching this task and for making this aspect of the project run smoothly.

As suggested above, a multitude of other NYBE staff personnel from Psychological Services, Multicultural Services, Student and Community Services, Computer Services, the ESL Department, and the Minkler Library contributed in some measure to this project but are too numerous to mention. However, a special posthumous thanks is extended to my friend and past supervisor, Michael Spence, who encouraged me to develop the proposal for this project and to pursue its implementation.

I am particularly grateful to the students and parents who participated in this study, and without whose cooperation, implementation would not have been possible. Parents initially consented for their children to take part in the testing phase of the project, and at a later date, an overwhelming percentage of parents gave willingly of their free time to take part in the parent interview phase of the project. Students who participated in the individual and group testing aspect of the project, voluntarily took time out from their schoolwork -- and many of these students, who were highly motivated to achieve, were well aware of the value of their missed class time.

Finally, it must be mentioned that a project of this nature can too easily become all-consuming. It can dominate one's actions and thoughts, at work and at home, until its completion is in sight. This having been said, I must tell Sandy, Lori, and Ian, how much I appreciate the tolerance, patience, and support they have shown at home over these last three years, putting up with my pre-occupations, in general, and with my single-minded behavior, in particular, when specific deadlines had to be met.

ABBREVIATIONS

The following abbreviations are used throughout this paper:

Length of Residence:

LOR - length of residence

LOR1 - length of residence from 6 months through 11 months in host country

LOR2 - length of residence from 12 months through 17 months in host country

LOR3 - length of residence from 18 months through 23 months in host country

LOR4 - length of residence from 24 months through 35 months in host country

LOR5 - length of residence from 36 months through 47 months in host country

LOR6 - length of residence from 48 months through 59 months in host country

LOR7 - length of residence from 60 months through 71 months in host country

Tests:

PPVT-R - Peabody Picture Vocabulary Test - Revised, Form L

DTLA-2WO - Detroit Tests of Learning Aptitude - 2, Word Opposites subtest

MAC-ORX - Maculaitis Assessment Program, Oral Expression subtest

MAC-LC - Maculaitis Assessment Program, Listening Comprehension subtest

DRP - Degrees of Reading Power, Form E-5

TOWL-2TM - Test of Written Language - 2, Thematic Maturity subtest

TOWL-2CV - Test of Written Language - 2, Contextual Vocabulary subtest

TOWL-2SM - Test of Written Language - 2, Semantic Maturity subtest

TOWL-2Tot - Test of Written Language - 2, Overall Score for Spontaneous Writing

Other:

L1 - first or native language spoken by an individual

L2 - second language spoken by an individual

ESL - English as a second language

BICS - basic interpersonal communication skills

CALP - cognitive/academic language proficiency

INTRODUCTION

A major challenge confronting assessors of English as a Second Language (ESL) students is that of differentiating early stages of "normal" second language acquisition from weaknesses resulting from non-ESL-related learning deficiencies. One response to this challenge has been the development of a body of literature describing, in fairly broad terms, the length of time it takes ESL students to achieve academic or linguistic parity with their native-born, English-speaking counterparts. A second response has been the development of a body of research addressing the diagnosis of learning deficiencies of ESL students, through such means as assessment of the student's first language (L1) or examination of pragmatic language criteria (Damico, Oller, and Storey, 1983). What seems to be lacking at this point, however, is an empirically derived statistical base that can serve as a starting point for determining whether, in fact, an ESL student is lagging sufficiently behind his/her peer group so as to constitute a cause for concern. Such a statistical base would seem useful for evaluating the four traditional areas of interest to educators: the oral language skills of speaking and listening and the academic skills of reading and writing. Not only could a comparative statistical base help identify the existence of a linguistic or academic lag, it could also help determine the magnitude of such a lag. The importance of this information is clear in terms of the school environment. There are implications for further diagnostic procedures, and ultimately, for programming, monitoring, and other intervention strategies.

Currently there are a number of issues complicating the assessment of ESL students:

(1) There appear to be an insufficient number of valid, reliable testing instruments designed specifically for the ESL population. Instruments designed for the English-speaking population are often inadequate, as their range of difficulty and established norms are inappropriate for ESL students.

(2) In examining the possible cause(s) of an ESL student's academic or linguistic lag, there are a variety of factors requiring investigation which are not normally associated with native speakers of English. In addition to exploring the usual complexity of non-ESL factors (e.g., cognitive and academic functioning, social/emotional adjustment, family background/dynamics, medical background, developmental history, possible learning disability), the investigator must also take into consideration the ESL student's socio-linguistic history, migration history, past schooling experiences in native country, current home/school/community language, and motivation and attitude towards his/her new culture, new language, and new school.

(3) Data associated with ESL linguistic/academic development are ordinarily either unavailable or expressed in such highly generalized terms as to render them useless. That is, while they may offer a global expectation for time needed to approach native English speakers' norms, they fail to take into account two interacting variables: the age of the ESL students and the ESL students' length of residence (LOR) in the host country. For example, the question, "Where would you expect an ESL student to be functioning in reading comprehension after being in the host country for 18 months?" takes on a greater degree of refinement when it is put in the form, "Where would you expect a 12 year old ESL student to be functioning in reading comprehension, after being in the host country for 18 months?" In other words, age or grade norms alone are insufficient to describe expectations for ESL learners. To be more meaningful, such norms require LOR information, as the linguistic/academic expectation for an 8 year old in the host country for a period of 18 months may be quite different from the expectation for a 12 year old who has resided in the host country for 18 months.

The importance of issues (1) and (2) above are not to be minimized; it is acknowledged that any assessment of ESL students must take these factors into consideration, and such factors will be addressed in this paper . However, the present investigation primarily focuses on issue (3) above and is undertaken to determine the feasibility of developing test criteria for the purpose of describing "normal" ESL progress, based on age and LOR variables. The progress measured is to be in the areas of speaking, listening, reading, and writing, and there are to be two sets of norms for comparison purposes. One set of norms is to be standardized on Canadian-born, native speakers of English and is to reflect only the variable of age. The other set of norms is to be standardized on ESL students and is to reflect the variables of both age and LOR. The two sets of norms may serve multiple functions:

(1) The norms may permit comparisons between ESL and native English-speaking students, of the same age, to help determine the relative strength of the ESL students.

(2) The norms may permit comparisons among ESL students of the same age and same LOR, to help determine the relative strength of a student within his/her ESL peer group. The language proficiency ratings obtained in this manner, in speaking and listening, may be of particular value, as they supplement the diagnostician's methodologies in detecting language-based (as opposed to ESL-based) disabilities. Currently, assessment of L1 functioning seems to be the primary method of detecting a language-based deficiency. The validity of this approach has its roots in the interdependence of L1 and L2 cognitive/academic language proficiency, as demonstrated by Cummins (1980). However, there are numerous obstacles encountered in the L1 testing approach: (a) Technically acceptable tests and norms in native languages are difficult to come by; (b) trained assessors in native languages are not readily accessible; (c) L1 assessment results are most valid when students are assessed immediately upon their arrival in their host country, and the sheer number of immigrants in certain school districts renders this approach somewhat impractical; and (d) there are an insufficient number of trained English-speaking assessors who speak the languages of the dominant and ever-changing immigrant populations. Given these limitations, it becomes necessary for available English-speaking personnel to make maximum use of the tools at their disposal, and the norms developed in this project may provide one additional tool available to them.

(At this point it would be useful to define the terms Cognitive/Academic Language Proficiency (CALP) and Basic Interpersonal Communication Skills (BICS), as introduced by Cummins and now used frequently in the literature. CALP refers to "the dimension of language proficiency which is strongly related to overall cognitive and academic skills." BICS refers to a more surface level of everyday communication skills (such as speaking and listening), which do not require as high a degree of cognitive functioning as CALP.)

(3) The norms may reveal a better understanding of the ESL pattern of development. For instance, we may know that it takes an ESL student approximately five years to achieve a native English speaker's level of reading comprehension, but we do not know the expected pattern of that development in chronological terms. Is the development over the five-year period evenly distributed year by year, or do particular years reflect varying degrees of progress toward the English-speakers' norm? (Walberg, Hase, and Pinzur Rasher's (1978) suggestion that language acquisition proceeds at a fast rate initially, and then slows down with time, can be looked at in greater detail.)

As suggested above, the current study is undertaken to determine the feasibility of developing two-dimensional ESL norms, based on age and LOR. The study is limited in scope in that it focuses on only one age level and seven LOR groups.

The age group selected for this study is that of 12 year olds (several Grades 6's, mostly Grade 7's, and some Grade 8's). Since LOR is being looked at over a 6 year period, it was felt that exposure to English could best be controlled by at least having the subjects in school full-time during the LOR intervals (6 months through 6 years) investigated. This would necessitate the subjects being at least in Grade 6, for at any lower grade level, the 6 year LOR period would cut into kindergarten (a half day's exposure to English) or pre-kindergarten (where there may not have been any exposure to English at all). Finally, 12 year old students were selected in this study over students who were 13 and older because the literature suggests that students arriving in their host country, after the onset of adolescence, are at a disadvantage in the long-term (after 2-3 years), in their acquisition of basic interpersonal communication skills (Collier, 1989) Limiting the study to 12 year olds would avoid dependence upon students arriving in the adolescent stage of development.

The LOR levels selected in this study are 6-to-11 months, 12-to-17 months, 18-to-23 months, 24-to-35 months, 36-to-47 months, 48-to-59 months, and 60-to-71 months. An attempt is made to determine whether identifiable language/academic growth patterns emerge over the course of these seven LOR periods, and if so, the nature of these patterns.

Additional objectives of this study are to examine background data contributing to ESL students' linguistic and academic success, and to look at teacher perceptions of ESL students' progress. Background information is derived from parents and guardians through structured telephone interviews, designed specifically for this research and conducted by trained interviewers in the parents' or guardians' native language whenever possible. Teacher perceptions are derived directly from Teacher Rating Scales, also developed specifically for this research.

REVIEW OF LITERATURE

The literature on second language learning, as related to the variables of age and LOR, is diverse, complex, and sometimes contradictory. Few studies have examined these two variables in concert, and the studies that have looked at age and LOR together, do not appear to have done so in depth. There has also been a tendency to look at fairly broad age ranges as opposed to specific age levels. In order to make the available literature more comprehensible, an attempt is made in this review to break it down into four categories: age and academic development, age and language development, age and phonological development, and length of residence and second language learning.

With respect to academic achievement, Rogers and Wright, in a Toronto Board of Education study (1969), found that ESL pupils, who began kindergarten with a performance deficit (as determined by teacher ratings and scores on the Metropolitan Achievement Test), completely made up that deficit by Grade 3.

Wright and Ramsey, also of the Toronto Board (1970), concluded that the older a student was (up to the age of 16 years) on his/her arrival in the host country, the more poorly that student performed, over a period of time, on tests of English language skills. Children who arrived at the age of 6 years and under performed better than children who arrived at the age of 7 and over, on tests of academic achievement, and it was hypothesized that the age of 6 years was a "critical age" above which one could predict an academic handicap. For those children arriving in the host country at the age of 6 or younger, there appeared to be no relationship between their age on arrival and their performance.

In Cummins' (1981) reassessment of the Toronto Board data, he pointed out that it took at least five years, on average, for new arrivals older than 6 years of age to approach grade norms in L2 CALP. He supported the Wright and Ramsey notion that there might in fact be a "critical age" on arrival, 6-to-7 years, which had importance in terms of progression towards grade norms. Keeping LOR constant, Cummins (1980) found that 6-to-7 year olds made more rapid progress toward grade norms than 4-to-5 year olds and 8-to-9 year olds, although 8-to-9 year olds learned more in absolute terms. One of Cummins' conclusions was that older L2 learners, whose L1 was better developed, would acquire L2 CALP, syntax, and morphology more rapidly than younger learners.

Collier (1987 and 1989) published two papers investigating age on arrival and ultimate academic attainment. In her first study she concluded that 8-to-11 year olds (age on arrival) were the fastest achievers in comparison to other age groups studied. It took 8-to-11 year olds two-to-five years to reach the 50th percentile on U.S. national norms in reading, language arts, mathematics, science, and social studies. Five-to-seven year olds were found to be the second best performing age group, with their performance lagging approximately 1-to-3 years behind the 8-to-11 year olds. Twelve-to-fifteen year olds comprised the slowest achieving age group and were estimated to reach grade norms approximately two-to-three years later than 8-to-11 year olds. Overall, Collier projected that it took all age groups 4-to-8 years to reach norms of native speakers.

Collier's second paper, which synthesized previous research on L2 academic achievement, emphasized the role of L1 CALP in the development of L2. She generalized that 8-to-12 year olds, with several years of L1 schooling, were the most efficient acquirers of L2 school language. Adolescents achieved similarly, with the exception of pronunciation, which came somewhat more slowly. It took 8-to-12 year olds five-to-seven years to reach U.S. national norms in reading, social studies, and science, when they were schooled exclusively in L2 after their arrival. In math and language arts (subjects reflecting a lesser degree of CALP than reading, social studies, and science), 8-to-12 year olds achieved national norms more quickly, in approximately two years.

Younger arrivals, with no previous L1 schooling, took longer to reach national norms in reading, social studies, and science, possibly seven-to-ten years, or never. Adolescents, with or without L1 academic backgrounds, and not able to work in L1 while acquiring L2, were said to not have enough time to make up lost years and to possibly never catch up to native-speaking age peers. Continued cognitive development in L1, through the age of 12, was seen as being a crucial factor for future academic growth in pre-pubertal and early pubertal arrivals.

Cummins et al (1984) conducted a study demonstrating the validity of the interdependence hypothesis, which stated that L1 and L2 proficiency were interdependent and manifestations of a common underlying dimension. In the course of their investigation with Japanese and Vietnamese school-age immigrants to English-speaking Canada, it was shown that older immigrant students, whose L1 proficiency was better established at the time of their exposure to L2, made more rapid progress in acquiring academic aspects of L2 than younger immigrant students. It was also shown that older immigrant students maintained and developed their L1 more adequately than students who immigrated at younger ages.

Ekstrand (1975) worked with about 2,200 immigrant children in Sweden, aged 7 to 17. He found reading comprehension, dictation, and written production, as well as other L2 variables, to improve with age. He rejected the notion that the optimum time to learn a language was during pre-puberty, and as he put it, language learning ability grew "monotonously and almost linearly with age." Ekstrand's results must be interpreted with caution, as the average length of residence in his study was less than one year.

Ferris and Politzer (1981) compared English composition skills (including holistic evaluation, evaluation of grammatical errors, and evaluation of structural complexity) of two groups of Spanish-speaking, junior high students. One group was born and schooled (in Spanish) in Mexico, at least to the grade 3 level, before moving to the U.S. -- and the other group was born and schooled in English in the U.S. All students participating in the study were in grades 7 and 8, which meant that the Mexican-born students had attended schools in the U.S. for three to four years. Both the Mexican-born group and the U.S.-born group had similar socio-economic backgrounds. Results of the study indicated that, except for the U.S.-born group's superior performance in the area of verb structure, there were no significant differences in composition skills between the two groups. The Mexican-born group did, however, surpass the U.S.-born group on measures of achievement motivation, interpersonal relations with teachers, and grades earned in English. Ferris and Politzer pointed out that, for bilingual children to succeed, lengthy exposure to the second language did not necessarily result in greater knowledge of that language. There was some support for previous investigators who suggested that pupils from linguistic minority groups were helped by education in their home language, while early immersion in the majority language did not necessarily lead to beneficial outcomes.

Walberg et al (1978) concluded that there was no evidence for early age sensitivity in the learning of reading and writing and other L2 variables. For all ages studied, 6 to 18 years, acquisition proceeded quickly at first and then slowed down. LOR was found to be a more significant factor in reading, writing, and L2 acquisition than age.

To summarize the results of the above studies, there are conflicting theories when one looks at the relationship between age and academic development. There is some evidence to suggest that younger children do better than older children; there is some evidence that older children do better than younger children; and there is some evidence that there are critical periods in children's development, particularly in conjunction with previous L1 learning, which allow them to outperform both younger and older children. A further theory suggests that there is little difference in academic learning, regardless of age.

Age and Language Development

Oyama (1978) looked at listening comprehension scores of 60 male Italian immigrants, who were 14 to 37 years of age and had moved to the United States when they were anywhere from 6 to 20 years of age. It was concluded that subjects who began to learn English before the age of 11 years performed better than the two older groups in the study and ultimately showed scores similar to native speakers of English. Subjects in the 11-to-15 year age-on-arrival group scored second best, and subjects in the 16-to-20 year age-on-arrival group earned the lowest scores of the three groups tested.

Saville-Troike (1973) supported a "sooner the better" theory in learning a foreign language and suggested that starting such a process prior to the age of six was desirable, if at all possible. She supported this approach on neurological evidence but added that there were other important factors to take into consideration such as home language, school/community language, parent/teacher expectations, attitude, motivation, and "interference between language systems if the second is added before the first is completely developed (at about age ten)."

Patkowski (1980) tested the hypothesis that learners exposed to a second language before the age of 15 achieved higher syntactic proficiency in their new language than adult learners. Sixty-seven immigrants to the U.S., who represented at least fourteen different native languages, were tested for syntactic proficiency in English. They were also administered questionnaires to ascertain practice and instructional effects on their second language acquisition. Thirty-three of the subjects arrived in the U.S. before the age of 15, and thirty-four of the subjects arrived after the age of 15. All had lived in the U.S. at least five years, and their arrival ages ranged from 5 to 50 years. Most of the subjects were described as professional, upwardly mobile, highly educated, or in the process of continuing their education. The four major variables investigated in this study were age at beginning of second language acquisition, length of residence in the U.S., informal exposure to English, and formal instruction in English. It was found that the major variable accounting for syntactic proficiency was the age at which second language acquisition began, or the age at arrival. The subjects in the before-age-15 group performed significantly better than subjects in the after-age-15 group. The other variables looked at in the study were found to have little effect on syntactic proficiency. Patkowski concluded that there was support for the notion that there were age-related limitations on the ability to acquire full command of syntax in a second language.

Seright (1985) examined the relationship between age and second language achievement of native speakers of Quebec French. The subjects, who were adult military personnel learning English in a short-term, intensive instructional setting, were divided into two age groups: 17-to-24 years of age and 25-to-41 years of age. Pretesting and post-testing procedures were used to measure gains in listening comprehension, and results suggested that, in adult L2 learners, the rate of achievement in listening comprehension varied inversely with age.

Ervin-Tripp (1974) suggested that the prime period for learning syntax was from two to ten years of age. In working with children aged 4 to 9, the older children learned syntactic and morphological language features much faster than younger children.

Ekstrand (1978) taught English to approximately 1000 Swedish children, ages 7 to 11, via mechanical audio-visual means. Following the teaching phase of the investigation, students were selected randomly for testing in the areas of English pronunciation and comprehension. When test results were plotted against age, there was a significant, almost linear increase in learning ability with increased age, for both pronunciation and comprehension. Ekstrand interpreted these results as support for a developmental theory of second language learning as opposed to an optimal age or critical period theory. One explanation for his findings was that "general cognitive development, second language learning, basic learning mechanisms, perception, imitation and social learning" all improved with age and were positively interrelated. Ekstrand speculated that

the developmental growth pattern, with respect to second language learning, might be modified somewhat by an optimum learning period at the age of 4-to-5 years, and by plateaus occurring at the 6-to-7 year old period and some time before puberty.

Asher and Price (1967) compared the listening comprehension of 8 year olds, 10 year olds, 14 year olds, and college adults aged 18 to 21 years. They did this by teaching simple Russian commands to English-speaking school children and college students over four separate sessions --- and then by administering retention tests which required action responses. Results indicated that the adults were superior to the children of any age group, and that the youngest students (8 year olds) performed most poorly. The 10- and 14-year olds were described as intermediate between the adults and 8 year olds in their ability to understand simple Russian commands, after four controlled training sessions. Asher and Price pointed out that there might have been a selectivity factor operating in this study, as the college students were selected among the top one-third high school graduates in California. It was also pointed out, however, that the 8, 10, and 14 year olds who participated in the study had average IQ scores (as measured by the California Test of Mental Maturity) of 115, 113, and 114, respectively. Results of this study must be interpreted with caution, as the learning of listening skills took place more under laboratory conditions than under natural developmental conditions.

Grinder et al (1962) conducted a study on 88 students who attended the University of Hawaii Elementary School and were taught Japanese as a second language. The students were distributed among grades 2, 3, and 4 and were instructed in Japanese by bilingual teachers employing an audio-lingual approach. Eighty-six 15-minute sessions were held with each class from October through May and, at the end of the school year, subjects were evaluated in terms of Japanese vocabulary, comprehension, and speech characteristics. Fourth grade subjects were rated significantly higher than second and third grade subjects in comprehension and on several speech characteristics, and it was suggested that older elementary-age children profited more from foreign language instruction than younger students. No significance was attached to other variables examined in the study, such as sex and ethnic background.

Ramirez and Politzer (1978) administered Comprehension and Production (imitation) tasks to six groups of students. Four of these groups were comprised of kindergarten, grade 1, grade 3, and grade 5 students, all of whom had entered school at the kindergarten level as monolingual speakers of Spanish. Each of the two remaining groups was comprised of a combination of junior and senior high school students. One of these groups was made up of pupils (mostly Spanish-speaking) recently arrived in the U.S. who were in their first year of immersion in an English school program. The second junior-senior high school group had a similar background to the first group, but was already in its second year of schooling in the U.S. As expected, there was an obvious progression of improvement, in both comprehension and production, from kindergarten to grade 1 to grade 3 to grade 5. Unexpectedly, however, there was almost no difference at all in performance between the first year and second year junior-senior high students, despite the latter group's having had some 12 months' more exposure to English. Both junior-senior high groups performed at approximately the same general level as the grade 3 students, who were in their fourth year of immersion into an English program. Grade 5 students scored better on both Comprehension and Production measures than either junior-senior high group. Both junior-senior high groups performed far better than the kindergarten group, whose exposure to English was roughly the same as the "first year" junior-senior high group; and both junior-senior high groups performed somewhat better than the grade 1 group, whose exposure to English was roughly equal to the "second year" junior-senior high group. Near significant differences favoring senior high over junior high students were also obtained on both Comprehension and Production measures. Ramirez and Politzer concluded that the high school age L2 learner showed superiority over the kindergarten beginner, likely a result of better memory and a more fully developed conceptual system. They noted that the "one year" high school subjects reached the level of grade 3 subjects in approximately half the time. They further noted that while kindergarten students tended to progress year after year, the high school students tended to level off after their first year. It was speculated that this

levelling off effect for adolescents might be attributed to artifacts in the instruments used in the testing.

Fathman (1975) examined test results of 200 children, who ranged in age from 6 to 15 years and were learning English as a second language in the Washington, D.C. public schools. She found the 11-to-15 year age group to outperform the 6-to-10 year age group on an oral production test which measured aspects of morphology and syntax. Her findings suggested that the ability to learn certain aspects of a second language might be age related.

The NFER French Project, carried out in England and Wales between 1964 and 1974, attempted to determine if it was educationally feasible and/or desirable to lower the age range of students (from 11 years to 8 years) who were being taught French. In Burstall's (1975) summary evaluation of this project, she addressed the question of whether there was "an optimum age for foreign language learning." The findings of the NFER Project challenged the view that younger children were better equipped than older children to learn foreign languages, in term of their speed and efficiency. It was found that the older children (who started learning French at age 11) tended to learn French more efficiently than the younger ones (who started learning French at age 8). By age 16, almost all differences between the two age groups disappeared, while there were slight differences favoring the younger group in terms of listening comprehension and attitude towards speaking French.

Krashen (1979) postulated that adults proceeded through the early stages of syntactic and morphological development more quickly than children, and that older children proceeded through these same early stages more quickly than younger children (with time and exposure to the new language held constant). However, he went on to say that although adults and older children acquired L2 faster than younger children, younger children were usually superior in their ultimate attainment of their new language. Children were noted to surpass adults in syntax and morphology in approximately one year.

In analyzing results of previous studies, Collier (1989) tended to support some of Krashen's findings. She found that, upon initial exposure to a second language, older children and adults were faster acquirers of their new language than younger children; but in the long run, prepubertal children were the best learners of the basic L2 skills needed for interpersonal communication, as they surpassed adolescents and adults in 2-to-3 years.

Hamayan et al (1977) conducted an elicited imitation study, which was perceived as a convenient way of measuring linguistic competence. The sentences to be repeated by the subjects consisted of seven different grammatical types, three of which were easy to repeat and four of which were difficult to repeat. A similar investigation had previously been conducted with 4-year old native speakers of English, and Hamayan et al wished to see if the same difficulties encountered by the English-speaking 4-year olds would be encountered by non-native speakers of English. For the Hamayan study, three groups of subjects were tested: twenty 8-year olds, twenty 11-year olds, and twenty college adults. All were native speakers of Arabic who were learning English as a second language while attending school in Beirut, Lebanon. The 8-year olds and 11-year olds had been studying English at school, on the average, for four and six years respectively; and the college students had been studying English for approximately seven years on average. Results indicated that the 8-year old group experienced grammatical structural difficulties similar to the English-speaking 4-year olds (from the previous research), but the college adults did not show the same differences in repeating the easy and more difficult grammatical structures. There was only a moderate difference found in the 11-year old group's ability to repeat the easy and more difficult grammatical structures. Hamayan et al concluded that the pattern of results represented a developmental difference in the ability of second language learners to repeat certain grammatical structures, and various theoretical reasons for this conclusion were offered.

Skutnabb-Kangas et al (1976) studied 687 Finnish children who migrated to Sweden, were in grades 1 through 9, and as a group, had a mean length of residence in Sweden of approximately 4 1/2 years. Their findings suggested that children moving to their host country around the age of 10 were in the best position to learn their new language, with the explanation being that their mother tongue had had time to stabilize. Children in the 6 to 8 year range were found to be in the least desirable age group, in terms moving to a new linguistic environment, while children under the age of 6 were also relegated to a high-risk category.

Snow and Hoefnagel-Hohle (1978a) concluded that older learners had an advantage over younger learners in rule-governed aspects of second language acquisition (Dutch), i.e., morphology and syntax. An exception to this was that teenagers tended to learn more rapidly than adults, although differences in ultimate levels of attainment diminished and disappeared with longer residence in Holland.

As did Snow and Hoefnagel-Hohle, Ekstrand (1975) also rejected the notion that the optimum age for learning a second language was before puberty. He found language learning ability to improve with age, as did intellectual functioning. Specifically, his results indicated that age was strongly related to the variables of pronunciation, dictation, listening comprehension, reading comprehension, and written production. An exception to his findings was that free oral production (describing the contents and happenings of three pictures) did not seem to be related to age. Subjects in this study were 2,200 immigrant children who attended Swedish schools and represented nine different grade levels.

Genesee (1978) compared early instruction and late instruction in the learning of a second language at school. Early instruction was seen to have the advantage of providing extended opportunities for language learning in terms of time exposure and amount of instruction. Late instruction was seen to have the advantage in that older, more cognitively mature students tended to be more efficient learners. Advantages of both forms of instruction would tend to accrue to students beginning a second language early and then continuing that development into the higher grades. Genesee suggested that early instruction learners might ultimately attain higher levels of L2 proficiency than late instruction learners, provided their learning experiences were based on sound pedagogical principles.

Snow and Hoefnagel-Hohle (1978b) worked with two groups of subjects learning Dutch: a "beginners" group, who were just starting to learn their new language, and an "advanced" group, who had been living in Holland for at least 18 months. The subjects were placed into age groupings of 3-to-5 years, 6-to-7 years, 8-to-10 years, 12-to-15 years, and adult. They were tested three times, at four-and-a-half month intervals, and among the areas tested were auditory discrimination, morphology, sentence repetition, sentence translation, sentence judgment, receptive vocabulary, story comprehension, and storytelling. Results did not support the critical period hypothesis which held that second language acquisition would occur most rapidly before the age of puberty. The 12-to-15 year age group and the adult group made the fastest gains during the first few months of learning L2. By the end of the first year, however, the 8-to-10 year olds and the 12-to-15 year olds had achieved the best control of Dutch, while the 3-to-5 year olds scored lowest on all tests. Subjects aged 6 to 15 were said to have essentially completed their acquisition of Dutch within one year's time.

Walberg, Hase, and Pinzur Rasher (1978) investigated over 300 Japanese students who were studying English in the United States. The students ranged in age from 6 to 18 years and had lived in the U.S. for varying lengths of time. During the first year of the study, self-ratings were used to determine comfort, fluency, and ease levels, in Japanese and English, for the separate tasks of reading, writing, speaking, and listening. Language use in the home was also rated. In the second year of the study, teacher ratings were used to determine English language competence with respect to reading, writing, vocabulary, and the expression of facts, concepts, and feelings. As other investigators had found, Walberg et al suggested that there was no evidence for early-age

sensitivity to language acquisition. For all ages, second language learning proceeded at a fast rate initially, but then the amount of gain tended to diminish with time.

In looking at the question of optimal age for learning a second language, Stern (1976) examined the British NFER report, the Canadian Gillin Report, and the orientations of Penfield (early learning is better) and Burstall (later learning is better). He hypothesized that there might, in fact, be no optimum age for learning a second language at any time in life. Rather, modes of learning might differ at early and later ages, and each age of learning had its own particular advantages and disadvantages. Whether learning was effective might depend more on the conditions under which the learning occurred (e.g., motivation, attitudes, expectations, teaching methodology) than upon the age of the learner. This theoretical framework was largely an extension of Stern's (1967) earlier work in which he cited neurophysiological and psychological factors strengthening the argument for "the earlier the start the better" in second language learning; but even in this earlier work he pointed out the advantages and disadvantages of beginning a second language at different ages, and he also emphasized the importance of contextual factors.

Ausubel (1964) questioned two notions about second language learning: (1) that children were superior to adults in their acquisition of a second language; and (2) that if children learned a second language through an audio-lingual approach, that approach must be the most effective way to learn a second language and would apply to adults as well. It was Ausubel's impression that adults could acquire a new language more readily than children and that there were certain features of the audio-lingual approach which were not compatible with effective learning processes in adults. These features included rote learning of phrases, inductive rather than deductive learning of grammatical rules, avoidance of the mediational role of the native language, presentation of the spoken form of the new language before the written form, and insistence on exposing learners to the "natural speed rendition" of the spoken language. Ausubel went on further to say that one could not compare the child's learning situation with that of the adult for a variety of reasons. He perceived children to receive more practice in their new language and to be more highly motivated and less self-conscious. He pointed out that children did better in acquiring an acceptable accent in their new language and that they possessed intellectual properties that were less differentiated than in adults; they were more adventuresome and less rigid in learning new tasks. Adults were depicted as having larger vocabularies than children, particularly where abstract concepts were concerned, and because of this, they merely had to learn new words or symbols rather than whole new concepts. Finally, it was pointed out that adults could make generalizations about rules of grammar better than children, who tended to discover such rules through repetition and were, therefore, less efficient in their learning of grammar rules. Ausubel noted that the word "adolescents" could be substituted for the word "adults" in his article in most contexts.

Overall, in the investigation of age and language development, a variety of hypotheses have been put forward by different investigators. The majority have suggested that learning a language at an older age was advantageous, while others have suggested that learning a language at a younger age was advantageous. Some investigators have obtained mixed results, with no definitive patterns (older to younger or younger to older) emerging, while still others have concluded that each age has its own advantages and disadvantages, and that there may be no critically best time to learn a second language. There is some evidence to suggest that, while older children and adults learn a new language more quickly than younger children, younger children are the best learners of a new language in the long run.

Age and Phonological Development

Asher and Garcia (1969) assessed 71 Cuban immigrants (ages 1 to 19 when entering the U.S.) on a task of sentence repetition in their second language, English. Results suggested that children entering the U.S. under 6 years of age had the highest probability (68%) of acquiring a near-native pronunciation of English, children 7-to-12 years of age had the second highest probability (41%), and children 13 years and older had the lowest probability (7%).

In the Fathman (1975) study cited earlier in this paper, English pronunciation was evaluated in addition to morphology and syntax. Subjects in the 6-to-10 year age range received higher ratings in English pronunciation than subjects in the 11-to-15 year age range, and it was suggested that pre-teen children were more successful at learning the phonology of a language.

Seliger et al (1975) used self-report interviews to determine L2 accents in American and Israeli adult immigrants. Subjects were divided into three categories based on their age on arrival in their host country: 9 years and under, 10-to-15 years, and 16 years and over. When statistics for English and Hebrew learners were combined, results indicated that, for the 9-and-under arrivals, most thought that their speech was similar to that of native speakers of their target language. For the 16-and-over arrivals, most felt that they still had a foreign accent. For the 10-to-15 year old arrivals, there was an approximately equal number of self-reports of accents versus no-accents. Seliger et al concluded that puberty may, in fact, be an important turning point in language learning ability, and that it was difficult to easily overcome foreign accents after puberty.

Oyama (1976) worked with sixty Italian-born, adult, male immigrants who arrived in the United States between the ages of 6 and 20 years, had resided in the United States between 5 and 18 years, and were selected from "upper educational groups." The subjects were tested for degree of English accent, based on their reading of a short paragraph and their telling of a brief anecdote about an episode in their lives. It was found that when the subjects were divided into three age at arrival categories (6-to-10 years, 11-to-15 years, and 16-to-20 years) and two length of residence categories (5-to-11 years and 12-to-18 years), age at arrival was a strong predictor of degree of accent, while length of residence had very little effect. Immigrants arriving between the ages of 6 and 10 years showed less accent than immigrants arriving between the ages of 11 and 15 years, who in turn, showed less accent than immigrants arriving between the ages of 16 and 20.

Ervin-Tripp (1974) worked with 31 English-speaking children, ages 4 to 9, who were attending school in Geneva, Switzerland, where French was the medium of instruction. Sentence imitation tasks were employed with the children who were 5 years of age and older, and findings suggested that, for most features of segmental phonology, the children above 7 years of age learned faster than the younger children. Ervin-Tripp advises that these results should be interpreted with caution since the number of children tested in the upper age groups of her study was fairly small. She also points out that, for most people, "the prime activation of phonology learning is in the first five years," and then re-activation of the phonological system takes place at 6 years of age with respect to reading.

Snow and Hoefnagel-Hohle (1977) negated the critical period hypothesis which stated that the pronunciation aspect of language acquisition developed more easily in pre-pubertal children than in post-pubertal children and adults. In their study they tested 136 subjects, ranging in age from 5 to 31 years, who were speakers of British English living in Holland and learning Dutch. Testing was conducted under both laboratory and naturalistic conditions. In the laboratory condition, older groups showed better performance than younger groups right from the beginning of their exposure to their new language. In the naturalistic condition, results favored the older subjects initially, but the younger subjects began to show a general advantage after ten-to-eleven months of learning.

Ekstrand (1975) looked at 9 different grade levels of over 2,000 Swedish immigrants and concluded that pronunciation, along with a number of other L2 variables, improved with age. He rejected the theory that the optimal age to learn a new language was before puberty.

Ekstrand (1978), in another study, worked with youngsters 7 to 11 years of age, under laboratory conditions. He found a linear increase in learning ability with increased age, for pronunciation as well as comprehension.

Olson and Samuels (1973) tested the assumption that, under laboratory conditions, younger children could master the phonological system of a second language more easily than older children. Their subjects were divided into three groups: twenty 9 1/2-to-10 1/2 year olds (elementary level), twenty 14-to-15 year olds (junior high level), and twenty 18-to-26 year olds (college level). All of the subjects were native speakers of English and had no previous formal foreign language instruction. Each group received ten sessions (15 to 25 minutes in length) of instruction in German phoneme pronunciation, over a period of two weeks. Pre-test results showed no significant difference in pronunciation for the three separate age groups. Contrary to the investigators' initial assumptions, post-test results showed that both the junior high and college groups were significantly superior to the elementary school group in their pronunciation of German. There was no significant difference in pronunciation accuracy between the junior high group and the college group.

In the Snow and Hoefnagel-Hohle (1978b) study cited earlier in the "Age and Language Development" section of this literature review, pronunciation was also evaluated in the five groups of subjects ranging in age from 3 years to adult. Only marginal age differences, or no age differences at all, were found on tests reflecting control of the phonetic system. This result appeared to be at odds with both the earlier Snow/Hoefnagel-Hohle study and with other studies in the field.

An overall impression of the literature on phonology and age is that the younger a child is on his/her arrival in a new country, the greater the likelihood that child will achieve a near native-like pronunciation of the new language. Studies contrary to this impression appeared to be either poorly controlled, were conducted under laboratory (as opposed to natural) conditions, or were in the minority.

Length of Residence (LOR) and Second Language Learning

Ekstrand (1975) found no significant relation between LOR and most of the language variables measured in his study (pronunciation, dictation, listening comprehension, reading comprehension, and written production). He did find the variable of free oral production (where the subject was required to describe the contents and happenings of three pictures) to be related, to some extent, to the LOR variable. It is to be noted that the mean LOR in Ekstrand's study was 10.5 months, and only 8.3% of his sample had an LOR greater than two years. Therefore, his results would seem extremely tenuous in light of the currently held theory that second language learning takes anywhere from 4-to-8 years (or longer under certain circumstances) to reach the level of native-like speakers.

Oyama's (1978) conclusions were similar to Ekstrand's in that the length of residence in her investigation was not found to be significantly related to scores earned on listening comprehension measures. Her findings must also be interpreted with caution, however, as the LOR of subjects in her study ranged from five years to twenty years; and given what is currently theorized about the length of time it takes to learn a second language, one would not expect her subjects to have made a great deal of progress in listening comprehension after their 5+ years of LOR. As Oyama herself stated, "People who had used English for shorter periods were not included (as subjects in this study), because it was the ultimate command of the language that was of interest, not the acquisition process itself."

A number of other investigators who focused on the 0-to-5 year LOR period, found LOR to be a significant factor in second language acquisition. Asher and Garcia (1969) noted that in all three of their groups of children studied, ranging in age from 7 to 19 years, each of the groups had the greatest chance of achieving a near-native pronunciation in English if they resided in their host country (the U.S.) for 5 years or longer.

Walberg et al (1978) concluded from the sample of children in their study that acquisition of English, among Japanese-speaking immigrants, was more a function of LOR than of the age at which the child arrived in the host country. It was estimated that equal units of performance gain in L2 took place during the first 2 months LOR, the next 5 months, the following year, the next 2 years, and the next 8 years. From this data, it could be shown that gains, the same size as, and following the initial gains, took increasingly longer to attain. It could also be shown that second language learning proceeded at a fast rate initially and then slowed down with time. According to student self-ratings in this same study, equal ease in reading English and Japanese occurred after 34 months of LOR; and according to teacher ratings, it took the Japanese students 42 months LOR to achieve the same level of reading proficiency as their average American classmates. It is to be noted that, in the Walberg et al study, student and teacher-ratings were used to determine L2 progress, as opposed to direct assessment of the subjects.

Cummins (1981) tended to support the findings of Walberg et al in that, when LOR was controlled, age of arrival appeared to have relatively little effect on the rapidity with which grade norms were approached by students in Grades 5, 7, and 9. LOR seemed to be the primary variable in contributing toward the students' approaching grade norms; and it was suggested that it took at least five years, on the average, for immigrant children arriving in the host country, after the age of 6, to approach grade norms in L2 CALP.

Collier's (1987) study examined the variables of age and LOR together. She concluded that students arriving in the host country between the ages of 8 and 11 were the fastest achievers, in terms of reaching the 50th percentile on national norms in reading, language arts, math, science, and social studies. It took this age group two-to-five years to reach this level. The 5-to-7 year olds were one-to-three years behind the 8-to-11 year old group, and the 12-to-15 year olds experienced the greatest difficulty, taking six-to-eight years to reach national grade level norms in areas of academic achievement, with the exception of math.

Collier's (1989) second investigation, which synthesized previous research, looked at LOR in conjunction with the variables of age on arrival and L1 history. Among her generalizations were: (1) When students are schooled in L1 and L2, they take from four-to-seven years to reach national norms on standardized tests of reading, social studies, and science; (2) Immigrants arriving at ages 8-to-12, with at least two years of schooling in their home country, take five-to-seven years to reach average national norms for native speakers (in reading, social studies, and science), when schooled exclusively in L2 after their arrival. Performance may reach national norms in as little as two years in math and language arts; (3) Young arrivals with no schooling in L1 may take seven-to-ten years to reach average national norms of native speakers (in reading, social studies, and science), and it is possible that they may never reach such average norms at all; (4) Adolescent arrivals with no previous L2 schooling and who are not allowed to work in their L1 while acquiring L2, do not have enough time left in high school to make up their lost years of academic instruction. Without special help, these students may never reach average national norms for native speakers of English, regardless of the quality of their previous schooling in L1.

Skutnabb-Kangas and Toukomaa (1976) found that an increase in second language skills, among Finnish immigrant children in Sweden, was clearly related to the length of time these children had spent in their adopted country. Correlations between LOR and L2 skills were lower for children in grades one and two than for children in grades three through six. It was hypothesized that these children tended to live in restricted Finnish-speaking environments prior to their

initial school attendance and contact with Swedish, and consequently, the LOR effect under these circumstances was reduced. Skutnabb-Kangas and Toukomaa also noted that regression in the mother tongue proceeded more quickly than second language improvement among those who had resided in the host country for a considerable period of time.

To summarize, studies addressing LOR and second language acquisition appear to be few and far between. Those studies which do exist generally examine LOR in a somewhat gross fashion or tend to require extreme caution in their interpretation due to their design. An impression is gained that, while LOR is an important variable to take into consideration in second language acquisition, it cannot be totally dissociated from age and L1 factors in predicting L2 success.

PROCEDURE

Overview

12 year old ESL students were computer-selected for testing to determine the feasibility of establishing achievement test criteria based on their length of residence in Canada. Canadian born, 12 year old, native speakers of English were also computer-selected to serve as a control group. All students were tested in reading, writing, speaking, listening, and non-verbal reasoning -- and testers and scorers underwent training to ensure uniformity of testing and scoring. All students were rated by their teachers in the areas of reading, writing, speaking, and listening, and teachers also provided information as to the amount of extra academic help being received by the students and the nature of such help. Parents/guardians of the students were interviewed by telephone (in their native language if possible), so that background information could be obtained on the ESL students -- and finally, statistical information derived from the Board's mainframe computer, test scores, teacher ratings, and parent/guardian interview data, was analyzed.

Subjects

Subjects participating in this investigation were initially selected from the Board's mainframe computer by a specially designed computer program. Control group students were 12 years of age, born in Canada, and their primary language was English. Experimental group students (identified as ESL students for purposes of this study) were also 12 years of age, but they were born outside of Canada, their primary language was a language other than English, and they had resided in Canada anywhere from 6 months through 71 months (six years). For ESL students the computer identified their primary language, other languages in which the students were fluent, their country of birth, and their length of residence in Canada. Length of residence was further broken down into seven categories: 6-11 months, 12-17 months, 18-23 months, 24-35 months, 36-47 months, 48-59 months, and 60-71 months. For all students, computer information was provided as to name, address, telephone number, student identification number, date of birth, sex, school attended, dwelling type, type of program in which student was enrolled (e.g., regular, special education, ESL, French Immersion), status in Canada (e.g., citizen, landed immigrant, student visa, refugee), and date of entry into the North York Board of Education. So that parents/guardians (with whom the student resided) could be contacted, their names were also included.

Students who were designated by the Board as being in Special Education programs were eliminated from this study, as were students who were designated SESD (Standard English as a Second Dialect), as opposed to ESL. This left 773 ESL students and 1626 control students to draw from in the initial pool of names. Based on the resources available for this project, a goal of testing 50 students in each of the eight categories (a total of 400 students drawn from the 7 LOR categories and one control group) was established. This number proved to be elusive for several reasons: (1) three of the LOR categories (6-11 months, 18-23 months, and 60-71 months) did not have 50 students in the initial pool; (2) some parents, whose children were selected to participate in the project, did not provide written consent for such participation; and (3) time limitations did not permit assessment of as many students as originally targeted. Despite not including as many students in the project as anticipated, sufficient numbers of students were assessed to make the project statistically viable, and the numbers of participating students are outlined below, by LOR category:

6-11 month LOR -------	24 students
12-17 month LOR -------	53 students
18-23 month LOR -------	38 students
24-35 month LOR -------	46 students
36-47 month LOR -------	50 students
48-59 month LOR -------	45 students
60-71 month LOR -------	29 students
Control Group ----------	43 students
Total ----------	328 students

The above numbers were generated in the following way. ESL students were sorted by school and LOR. All middle schools and junior high schools (a total of 26 schools) in North York participated in the study. Parents/guardians of all students in the initial pool of names were asked for written consent for their children to participate. Of those consent forms returned, an attempt was made to test some children from each LOR category within each school. This was not always possible as some schools did not have student representation from certain LOR categories. In other schools, there may have been an overabundance of students to test in certain LOR categories. In these instances, a ceiling was placed on the number of students who could be tested, and students were selected randomly from the LOR groups in which there was a surplus of testing candidates available. For the control group, a list of 64 names was generated randomly from a computer. Of those control group students whose parents consented for participation, as many students as possible were tested.

Some characteristics of the experimental group are described below:

Age:

All students were 12 years of age at the beginning of the testing period, which lasted three weeks. A small percentage of these students turned 13 years of age during the three week period of the testing.

Sex:

Female - 46.3%
Male - 53.7%

Grade:

Grade 6 - 1.4%
Grade 7 - 83.0%
Grade 8 - 15.6%

Dwelling Type:

Single detached -	28.1%
Semi-detached -	5.6%
Townhouse -	9.5%
Low-rise apartments -	5.6%
High-rise apartments -	49.5%
Apartments over stores -	1.1%
Other -	0.7%

Primary Language:

Amharic	0.3%	Persian/Farsi	9.5%
Arabic	2.7%	Polish	0.9%
Bengali	0.3%	Punjabi	2.7%
Cantonese -	10.7%	Romanian	1.5%
Chiu Chow	0.3%	Russian	7.6%
German	0.3%	Serbo-Croatian	0.3%
Greek	0.3%	Sinhalese	0.3%
Gujarati	0.6%	Somali	1.5%
Hebrew	5.8%	Spanish	7%
Hindi	2.1%	Tagalog/Pilipino	0.3%
Hungarian	1.2%	Tamil	2.7%
Italian	0.3%	Thai	0.3%
Japanese	2.1%	Turkish	0.3%
Khmer	1.2%	Twi	1.5%
Korean	4.9%	Urdu	2.7%
Lao	0.9%	Vietnamese	5.8%
Macedonian	0.3%	Other Chinese	0.6%
Mandarin	4.9%	Other African	0.9%
Pashto	0.3%	Other	0.6%

Secondary Language Other Than English:

27 students, or approximately 9.3% of the experimental group, spoke a second language other than English.

Country of Birth:

Afghanistan	1.2%	Korea (North/South)	4.6%
Algeria	0.3%	Laos	0.6%
Argentina	1.2%	Lebanon	0.6%
Bangladesh	0.3%	Libya	0.3%
Cambodia	0.9%	Nicaragua	0.6%
Chile	0.6%	Pakistan	2.4%
China	0.6%	Paraguay	0.3%
Dominican Republic	0.3%	Peru	0.3%
Ecuador	0.3%	Philippines	0.6%
Egypt	0.3%	Poland	0.9%
El Salvador	1.2%	Romania	1.8%
Ethiopia	0.9%	Saudi Arabia	0.3%
Fiji	0.6%	Somalia	1.2%
France	0.3%	Spain	0.3%
Ghana	1.5%	Sri Lanka	3.4%
Greece	0.3%	Sudan	0.3%
Guatemala	2.4%	Syria	0.3%
Hong Kong	10.1%	Taiwan	4.0%
Hungary	0.6%	Thailand	0.6%
India	4.9%	Turkey	0.3%
Iran	8.5%	United States	0.3%
Iraq	0.9%	U.S.S.R.	8.2%
Israel	5.2%	Vietnam	6.1%
Italy	0.3%	Yugoslavia	0.6%
Japan	2.1%	Other African	0.6%
Jordan	0.3%	Other Asian	0.3%
Kenya	0.6%		

Status in Canada:

Application for Landed Immigrant status has been made - 6%
Canadian Citizen - 3%
Landed Immigrant - 72%
Minister's Permit - 2%
Refugee Claimant (Temporary) - 12%
Parent has a work permit - 5%

Primary Person(s) With Whom Student Resides:

Both Parents - 87%
Mother - 11%
Father - 1%
Legal Guardian - 1%

Some characteristics of the control group are described below:

Age:

All students were 12 years of age at the beginning of the testing period, which lasted three weeks. A small percentage of these students turned 13 years of age during the three week period of the testing.

Sex:

Female - 48.8%
Male - 51.2%

Grade:

Grade 6 - 0%
Grade 7 - 92.9%
Grade 8 - 7.1%

Dwelling Type:

Single detached - 41.9%
Semi-detached - 4.7%
Townhouse - 11.6%
Low-rise apartments - 9.3%
High-rise apartments - 32.6%
Apartments over stores - 0%
Other - 0%

Primary Language:

English - 100%

Secondary Language:

No students were fluent in any language other than English.

Country of Birth and Status in Canada:

All students were Canadian born and were Canadian citizens.

Primary Person(s) With Whom Student Resides:

Both Parents - 76.7%
Mother - 16.3%
Father - 4.7%
Legal Guardian - 2.3%

Tests

An exhaustive list of over one hundred tests, which measured speaking, listening, reading, and/or writing, was generated from the ESL literature. An attempt was then made to systematically scrutinize these tests by examining them first-hand when possible, and by cross-referencing their reviews by Buros (1978), Mitchell (1985), Conoley and Kramer (1989), Keyser and Sweetland (1984-88), and Alderson et al (1987). The tests were then evaluated on the following variables: favorability of reviews, technical data (validity and reliability), appropriateness for age level, broadness of scoring range to allow for adequate discrimination, time and ease of administration, time and ease of scoring, pragmatic component, a global score, individual versus group administration, availability (as some tests were out of print or could not be located), and appropriateness for ESL and control populations. Not any one test met all of the above criteria, however, the tests which were eventually selected met as many of the criteria as possible, with some subjective judgment ultimately being applied. Tests finally selected were the Maculaitis Assessment Program (Oral Expression and Listening Comprehension), Woodcock-Johnson Tests of Achievement (Passage Comprehension and Writing Samples), Test of Written Language - 2 (Spontaneous Writing, consisting of five subtests and one overall score), Degrees of Reading Power (Form E-5), Matrix Analogies Test (Short-Form), Peabody Picture Vocabulary Test - Revised (Form L), and Detroit Tests of Learning Aptitude - 2 (Word Opposites). A brief description of the structure of these tests is outlined below:

<u>Maculaitis Oral Expression</u>
(Administered individually in this project)

- Answering Questions - oral
- Asking Questions - oral
- Connected Discourse - oral description of pictorial sequence

<u>Maculaitis Listening Comprehension</u>
(Administered in group in this project)

- Answering Questions - multiple choice, answer sheet
- Comprehending Statements - multiple choice, answer sheet
- Comprehending Dialogues - multiple choice, answer sheet

<u>Woodcock-Johnson Passage Comprehension</u>
(Administered individually in this project)

- Pointing to a picture which coincides with words
- Completing sentences orally (cloze) after looking at a picture
- Completing sentences orally (cloze) based on preceding text

<u>Woodcock-Johnson Writing Samples</u>
(Administered individually in this project)

- Writing name
- Writing word which completes sentence
- Writing sentences
- Writing sentences using designated words
- Writing descriptive sentences
- Writing a second sentence that is missing from text

(After cue words from examiner plus pictures)

Test of Written Language - 2 (Spontaneous Writing)
(Administered in group in this project)

Spontaneous writing to a picture
- Thematic Maturity - inclusion of specific criteria into one's story
- Contextual Vocabulary - number of different words used of seven or more letters
- Syntactic Maturity - number of words used correctly, in a grammatical sense
- Contextual Spelling - number of different words used that are spelled correctly
- Contextual Style - weighted credit awarded for each punctuation and capitalization rule applied correctly
- Overall Score - based on five subtests above

Degrees of Reading Power
(Administered in group in this project)

Multiple choice cloze procedure which measures a student's ability to process and understand nonfiction English prose passages written at different levels of difficulty

Matrix Analogies Test - Short Form
(Administered in group in this project)

Measure of non-verbal ability through items involving pattern completion, reasoning by analogy, serial reasoning, and spatial visualization

Peabody Picture Vocabulary Test - Revised, Form L
(Administered individually in this project)

Measure of receptive vocabulary development - student selects one of four pictures which coincides best with stimulus word uttered by the examiner

Detroit Tests of Learning Aptitude - 2 (Word Opposites)
(Administered individually in this project)

Measures a highly complex vocabulary ability - student has to comprehend the meaning of a stimulus word uttered by the examiner and then respond orally with a word that means the exact opposite

Some questions were raised about the suitability of specific test items, pictures, and instructions from the above-mentioned tests. With respect to test items, all remained as in the original tests with the exception of minor changes to two items on the Maculaitis. On one Maculaitis Oral Expression question, the term "record player" was changed to "tape recorder", as the original term was judged to be outdated, and the substitute term did not appear to change the meaning or the difficulty of the item. On one Maculaitis Listening Comprehension question, the term "sailor" was changed to "soldier". The term "sailor" was not felt to be as familiar in the Canadian lexicon as "soldier", and again the substitute term did not appear to affect the meaning or difficulty of the item.

With respect to the appropriateness of pictures for the ESL population, two pictures, in particular, were of concern. One picture was the stimulus for writing a story on the TOWL-2, and the other pictures comprised a sequence of four pictorial stimuli, for telling an oral story, on the Maculaitis subtest of Oral Expression. To determine the appropriateness of these pictures for the ESL population, preliminary testing was conducted at one middle school in North York. Twelve students were administered the Spontaneous Writing section of the TOWL-2, and sixteen students were administered the Connected Discourse section of the Oral Expression subtest of the

Maculaitis. As a result of this preliminary testing, it was determined that not only were the ESL students able to respond appropriately to the pictures in question, but their responses to these pictures covered a sufficient range to discriminate among the various levels of ability in writing and oral expression.

With respect to the suitability of test instructions for the ESL population, all instructions remained standard, with two exceptions. One exception applied to the TOWL-2, where the original instructions were subjectively judged to be too complicated for ESL students. Consequently, a substitute set of instructions was developed without changing the meaning or order of the original instructions. A second exception to standard instructions was in the form of a general principle adhered to by the examiners. Basically, this principle stated that, if a student had difficulty understanding standard instructions, such instructions could be modified by demonstration or further explanation, provided that such modification did not assist the student in answering specific test questions.

Testing Procedures

Examiners were instructed to take the time to establish rapport with students, to get them to feel at ease, before proceeding with the testing. Identifying information (name, birth date, grade, and length of residence in Canada) was confirmed whenever possible, and discrepancies were clarified through school records or parents/guardians. As indicated above, examiners were to ensure that students understood test instructions, and they were to modify such instructions when necessary. All aspects of scoring were double checked, including initial scoring of responses, calculation of raw scores, and transfer of scores to Summary Score Sheets. In group tests, groups generally consisted of five to eight students. In extenuating circumstances (dictated by numbers of students in a school or by absences), such groups were minimally smaller or larger. In group testing, students were positioned sufficiently apart, so as to avoid the temptation of looking at other students' work. Also on group tests, which took from three quarters of an hour to one and three quarters hours (depending on the student's LOR and the battery of tests administered), a ten minute break was taken after the first hour for those students affected. An individual test battery took from approximately twenty-five minutes to one hour, depending on the student's LOR and the battery of tests administered. A breakdown of which tests were administered to which LOR groups is found in Appendix G, and along with these test listings are the estimated times of administration, as determined by the test publishers. The same order of tests was administered to each student within an LOR category. Only those students were tested whose parents/guardians provided written consent. Most of the testing took place in the three week period from November 4, 1991, to November 22, 1991. A few tests were administered in the beginning of the week of November 25th, to tie up loose ends and to assess some students who were previously absent.

Examiners

Five examiners conducted the testing in this project. All five had extensive experience in individual psychometric testing, while some had more experience in group testing than others. Each examiner was assigned from four to six schools and an approximately equal number of students to assess overall. All examiners attended a full day training/orientation session two weeks prior to the commencement of testing. During this orientation, they were provided with a project manual and were familiarized with tests, score sheets, and test and project procedures. This familiarization process continued on a self-directed basis for the two weeks leading up to the beginning of the testing. Prior to entering a school, each examiner contacted the school in advance to arrange for proper testing facilities and conditions, including rooms, furniture, and availability of students. Responsibilities of the examiners included not only individual and group testing, but scoring of tests (excluding the TOWL-2), transfer of test scores to Summary Score Sheets, and distribution and collection of Teacher Rating Scales within each of their assigned schools. On November 6, 1991, two days after the testing began, all examiners met to compare experiences and to iron out difficulties they might have encountered.

Scorers

All tests were scored by the examiners, with the exception of the TOWL-2. This particular test requires time (29 minutes per test, as estimated by the test publisher) and expertise on the part of the scorer, and it was judged to be both more efficient and more proficient to have the TOWL-2's scored at one time by independent scorers. Two scorers were selected for this task. Each of the scorers was a graduate student at the Ontario Institute for Studies in Education, and each one had a background in second language education and psycholinguistics. Prior to the actual scoring, a five hour orientation session was held for the two scorers, familiarizing them with TOWL-2 scoring procedures.

Teacher Rating Scale

The Teacher Rating Scale was developed for this project with three purposes in mind: (1) as a validity check on test results; (2) as an instrument which might provide insight as to how teachers evaluate ESL and non-ESL students; and (3) as a check on whether ESL students at risk were receiving help consistent with their needs.

Two similar Teacher Rating Scale forms were employed, one for the experimental ESL group (Appendix A) and one for the control group (Appendix B). For both the experimental group and the control group, teachers were asked to rate students, on a scale of 1 to 7, on four separate variables: speaking, listening, reading, and writing. For the ESL experimental group, students were rated on these four variables two times, once in comparison to same-age ESL students with similar lengths of residence in Canada, and once in comparison to same-age, Canadian-born, English-speaking controls. For the Canadian-born control group, students were rated on the four variables only one time, in comparison to other same-age, Canadian-born, English-speaking students. The rating scale, with percentages, was described for teachers, with a score of 1 representing the lowest score, and a score of 7 representing the highest score. Definitions of speaking, listening, reading, and writing were provided, with the definitions closely approximating the descriptions offered in the corresponding published tests, which were administered to the students.

In addition to rating students, teachers were asked to specify whether students were receiving academic support beyond that provided by the regular classroom teacher during normal school hours. If extra academic support was provided, teachers were then asked to specify the nature of such support and how many hours per week, to the nearest quarter hour, such support was being offered.

The Teacher Rating Scale was filled out by the teacher primarily responsible for teaching the student English. In the case of students not enrolled in the ESL Program, this teacher was usually the regular classroom teacher, the English teacher, the Core teacher, or any combination of these teachers. In the case of students enrolled in the ESL Program, it was usually the ESL teacher who filled out the rating scale. Consultation between ESL teachers and non-ESL teachers was encouraged if questions arose in the rating of a student. A relatively small percentage of teachers claimed to be unable to rate ESL students in their English language development, as they had no standard for comparison in their previous teaching experience. Valid reasons for these claims were presented (such as new teachers who never taught ESL students before, teachers who never taught this age level before, and ex-French teachers who never taught English before), and consequently, not all students could be rated on the Teacher Rating Scale.

Teachers were requested to complete Teacher Rating Scales at the same time student testing for this project was conducted in their schools. Testers, who were familiar with the Teacher Rating Scales, were available to teachers if questions arose or if clarification was needed. Not all Teacher Rating Scales were completed by the time testers moved on to other schools, and in these instances, follow-up was necessary to ensure that all clarifications requested by teachers were responded to and that all Teacher Rating Scales were handed in.

Parent Interview Form

The Parent Interview Form (Appendix C) was developed for this project to serve three main functions: (1) to provide a check on identifying information previously supplied by students and the mainframe computer; (2) to provide descriptive data on ESL students in the North York Board of Education; and (3) to provide background information on the current sample of students, to help assess the relative importance of various background variables on student success.

The ESL literature is replete with information describing how various background factors (pre- and post- host country) affect student success in second language acquisition. The Parent Interview Form was designed to investigate some of these factors and, in conjunction with test performance, determine their relative impact on English language development. In addition to providing general identifying information on students, the Parent Interview Form provided data in the following areas: school attendance prior to moving to Canada, exposure to English prior to moving to Canada, past and present home languages (for student and family), private tutoring in English in Canada, relative strength in native language expression (comparing current ability to when first arrived in Canada), parental satisfaction with student's English language development, the existence of communication problems in the home resulting from students losing native language proficiency, parental concern about native language development, school attendance since moving to Canada, medical factors possibly interfering with English language acquisition, and parental levels of education.

Interviewers and the Interview Process

An attempt was made to provide as many parents/guardians as possible the option of being interviewed in their native language or in English. For this reason, interviewers had to be bilingual. Since it was not practical to engage and train bilingual interviewers from all 38 languages represented in this study, interviewers were selected from the eighteen most frequently occurring native languages. Some of these interviewers spoke more than one language, in addition to English, and were able to interview parents/guardians in native languages not included in the original eighteen. Other interviewers attempted to interview parents/guardians, not included in the original eighteen languages, in English, and were largely successful using this approach. Overall, only five parents/guardians were not able to be interviewed, out of 291. Reasons for not being interviewed included refusal, telephone out of service, parent/guardian never available, and the family having moved between the time the student was tested and the time the interviewer attempted to contact the parent.

All parent/guardian interviews were conducted by Multicultural Consultants, trained assessment translators, or interpreters. All interviewers had experience with the North York Board of Education in conducting interviews with parents of ESL children, and all interviewers attended a half-day training session to become familiar with interview procedures and with the Parent Interview Form itself.

Parents/Guardians were all interviewed by telephone during the period extending from mid-December, 1991, to mid-February, 1992. Interviewers started each conversation by identifying themselves and the purpose of their call. They advised parents that the telephone contact was part of a research project conducted by the North York Board of Education. Parents were reminded that their children recently participated in the testing phase of the research, which was attempting to better understand how students from other countries learned English. Parents were then told that, in order to make the study more comprehensive, their cooperation in answering some background questions would be appreciated. The interview would then begin, and on average, last approximately twenty to thirty minutes. All responses were recorded in English. Most questions required objective answers, which lent themselves to computer coding. Ten questions, which were open-ended, were computer coded after all interviews were conducted. The final two questions of the interview gave both the interviewee and the interviewer the opportunity to offer open-ended

comments which they thought might be useful in further understanding the student's English language development.

Parent Permission Forms

All students who took part in this study were required to have signed parental consent in order to participate. Since many of the ESL students came from homes where parents were unable to read or write English, an attempt was made to present the parents with forms in their native language, wherever practical. To achieve this goal, Parent Permission Forms were translated into the thirteen languages occurring most frequently in the North York Board of Education, prior to commencement of the study. ESL students, who represented these thirteen languages, were provided with forms written in English on one side, and in their native language on the other side. The signing of either side was acceptable. ESL students, who did not represent the thirteen languages occurring most frequently in North York, were provided with forms in English. Control students, who were born in Canada and whose first language was English, were provided with Parental Consent Forms in English, but these forms differed slightly in content from those developed for the experimental ESL students. (Copies of all Parent Permission Forms are found in Appendices D, E, and F.)

Statistics

All statistics compiled in this project (test scores, teacher ratings, and parent interview results) were data processed and statistically analyzed by the Measurement, Evaluation, and Computer Applications (MECA) Department at the Ontario Institute for Studies in Education. Specific statistical procedures that were employed are discussed in the appropriate sections of this paper.

RESULTS

Test Results by Length of Residence

This section of the study attempts to answer the following questions for each test administered:

(1) What is the mean score for each LOR group and for the control group?

(2) What is the standard deviation for each LOR group, for the control group, and for all groups combined?

(3) How do the LOR mean scores compare to the English-speaking published test norm mean scores (for 12 1/2 year olds) and to the control group mean scores, where such comparisons (employing age equivalent scores and/or percentiles) are possible?

(4) Are there significant differences among the mean scores of each LOR group and of the control group? Such a determination is to be made by employing analysis of variance.

(5) If there are significant differences among mean scores of the various groups, are these differences significant in terms of linearity, i.e., do the scores increase in a linear fashion from the LOR group with the shortest length of residence, to the LOR group with the longest length of residence, to the control group? Such a determination is derived from the analysis of variance.

Peabody Picture Vocabulary Test-Revised, Form L-M (Standard deviation for all groups combined = 38.9)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to12 1/2 year olds	
6-11 months	51.0	35.4	4 yrs./6 mos.	<1st %ile
12-17 months	57.4	30.8	5 yrs./0 mos.	<1st %ile
18-23 months	61.7	22.0	5 yrs./4 mos.	<1st %ile
Control	122.5	11.4	12 yrs./3 mos.	46th %ile
Test Norms for 12 1/2 yr. olds	123.5		12 yrs./6 mos.	50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .000 level of significance?

Woodcock-Johnson Passage Comprehension (Standard deviation for all groups combined = 20.2)

LOR	Mean W Score	S.D.	Test Norms and Comparisons to12 1/2 year olds	
6-11 months	478.3	27.9	~8 yrs./5 mos.	~6th %ile
12-17 months	480.3	19.3	~8 yrs./7 mos.	~7th %ile
18-23 months	480.2	16.1	~8 yrs./7mos.	~7th %ile
Norms for 12 1/2 yr. olds	509.0		~12 yrs./6 mos.	~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group?
No

BEST COPY AVAILABLE

Woodcock-Johnson Writing Samples (Standard deviation for all groups combined = 13.3)

LOR	Mean W Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds	
6-11 months	488.8	17.0	~8 yrs./3 mos.	~6th %ile
12-17 months	491.3	12.4	~8 yrs./7 mos.	~10th %ile
18-23 months	488.6	11.6	~8 yrs./3 mos.	~6th %ile
Norms for 12 1/2 yr. olds	509.0		~12 yrs./6 mos.	~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group?
No

Detroit Test of Learning Aptitudes - 2, Word Opposites (Standard deviation for all groups combined = 9.2)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to12 1/2 year olds	
6-11 months	17.9	12.1	~7 yrs./5 mos.	5th %ile
12-17 months	20.8	9.2	~7 yrs./6 mos.	5th %ile
18-23 months	20.0	8.7	~7 yrs./6 mos.	5th %ile
24-35 months	25.9	8.3	~8 yrs./6mos.	9th-16th %ile
36-47 months	27.1	6.7	~9 yrs./0 mos.	16th %ile
48-59 months	28.7	5.3	~9 yrs./6 mos.	16th-25th %ile
60-71 months	26.6	9.2	~9 yrs./3 mos.	16th %ile
Control	34.0	3.3	~13 yrs./6 mos.	63rd %ile
Norms for 12 1/2 yr. olds	33.0		~12 yrs./6 mos.	50th %ile

Are there significant differences among the mean scores of each LOR group and the control group?
Yes, at the .000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .000 level of significance?

Maculaitis Oral Expression (Standard deviation for all groups combined = 14.1)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to12 1/2 year olds
6-11 months	46.96	20.3	)
12-17 months	49.77	13.4	)
18-23 months	48.26	14.0	) Not applicable, as there are no
24-35 months	59.91	10.5	) published norms for non-ESL
36-47 months	63.56	9.2	) students
48-59 months	65.71	9.5	)
60-71 months	61.48	11.4	)
Control	71.21	4.0	)

Are there significant differences among the mean scores of each LOR group and the control group?
Yes, at the .000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .000 level of significance?

Matrix Analogies Test - Short Form (Standard deviation for all groups combined = 6.0)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to12 1/2 year olds	
6-11 months	23.22	7.3	10 yrs./4 mos.	~30th %ile
12-17 months	23.33	6.2	10 yrs./5 mos.	~31st %ile
18-23 months	22.11	7.9	9 yrs./11 mos.	~22nd %ile
24-35 months	24.42	5.8	11 yrs./2 mos.	~40th %ile
36-47 months	23.53	6.4	10 yrs./7 mos.	~33rd %ile
48-59 months	23.70	4.4	10 yrs./8 mos.	~35th %ile
60-71 months	24.38	6.1	11 yrs./1 mo.	~39th %ile
Control	24.86	3.7	11 yrs./7 mos.	~43rd %ile
Norms for 12 1/2 yr. olds	~25.66		12 yrs./6 mos.	~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group?
No, as one might predict, since the MAT-SF is a non-verbal test of visual reasoning and is not expected to be particularly sensitive to varying degrees of English language proficiency.

Maculaitis Listening Comprehension (Standard deviation for all groups combined = 5.0)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to12 1/2 year olds
6-11 months	16.09	6.0	)
12-17 months	16.48	5.9	)
18-23 months	16.08	4.9	)
24-35 months	19.24	4.1	) Not applicable, as there are no
36-47 months	20.39	4.1	) published norms for non-ESL
48-59 months	20.50	3.8	) students
60-71 months	19.90	4.9	)
Control	21.67	2.8	)

Are there significant differences among the mean scores of each LOR group and the control group?
Yes, at the .000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .000 level of significance?

Degrees of Reading Power - Form E (Standard deviation for all groups combined = 12.6)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to Students, Fall, Gr. 7	
18-23 months	18.09	7.1	~Late Gr. 3	6th %ile
24-35 months	24.60	12.3	~Early Gr. 4	12th %ile
36-47 months	25.00	11.3	~Early Gr. 4	12th %ile
48-59 months	25.41	10.7	~Early Gr. 4	13th %ile
60-71 months	30.72	14.7	~Early Gr. 5	21st %ile
Control	37.49	10.9	~Late Gr. 6	37th %ile
Norms for Fall, Grade 7	~43.50		~Early Gr. 7	50th %ile

Are there significant differences among the mean scores of each LOR group and the control group?
Yes, at the .000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .000 level of significance?

TOWL-2 Thematic Maturity (Standard deviation for all groups combined = 2.5)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	4.26	2.2	~11th %ile
24-35 months	5.78	2.4	~32nd %ile
36-47 months	5.88	2.7	~34th %ile
48-59 months	6.16	2.5	~39th %ile
60-71 months	6.21	2.8	~40th %ile
Control	6.79	2.1	~47th %ile
Norms for 12 1/2 yr. olds	7.00		~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .0009 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0003 level of significance?

TOWL-2 Contextual Vocabulary (Standard deviation for all groups combined = 5.3)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	6.82	4.1	~23rd %ile
24-35 months	10.58	4.8	~44th %ile
36-47 months	9.61	5.3	~37th %ile
48-59 months	10.45	5.9	~43rd %ile
60-71 months	9.21	4.3	~37th %ile
Control	11.76	5.5	~50th %ile
Norms for 12 1/2 yr. olds	~12.00		~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .0047 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0051 level of significance?

TOWL-2 Syntactic Maturity (Standard deviation for all groups combined = 52.3)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	57.15	38.4	~16th %ile
24-35 months	93.71	40.4	~37th %ile
36-47 months	107.18	60.5	~50th %ile
48-59 months	97.57	51.6	~37th %ile
60-71 months	86.62	50.0	~37th %ile
Control	121.79	49.3	~50th %ile
Norms for 12 1/2 yr. olds	~114.50		~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .0000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0000 level of significance?

TOWL-2 Contextual Spelling (Standard deviation for all groups combined = 49.9)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	98.74	45.3	~25th %ile
24-35 months	125.40	35.6	~37th-50th %ile
36-47 months	133.53	62.3	~37th-50th %ile
48-59 months	119.43	49.4	~37th-50th %ile
60-71 months	112.38	48.5	~25th-37th %ile
Control	130.86	46.1	~50th %ile
Norms for 12 1/2 yr. olds	~141.50		~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .0318 level of significance.

Are these differences significant in terms of linearity? No. Significance is at the .2279 level.

TOWL-2 Contextual Style (Standard deviation for all groups combined = 4.7)

LOR/Control Group	Mean Raw Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	6.35	3.7	~50th %ile
24-35 months	8.04	4.8	~63rd %ile
36-47 months	7.20	5.0	~53rd %ile
48-59 months	6.23	4.8	~50th %ile
60-71 months	5.45	3.7	~43rd %ile
Control	7.33	5.1	~54th %ile
Norms for 12 1/2 yr. olds	~6.50		~50.0 %ile

Are there significant differences among the mean scores of each LOR group and the control group? No.

TOWL-2 Overall Score (Standard deviation for all groups combined = 11.7)

LOR/Control Group	Mean Stand. Score	S.D.	Test Norms and Comparisons to 12 1/2 year olds
18-23 months	37.53	11.5	~12th %ile
24-35 months	46.20	9.6	~37th %ile
36-47 months	45.82	12.9	~34th %ile
48-59 months	45.27	11.9	~33rd %ile
60-71 months	42.97	11.3	~25th %ile
Control	48.76	10.4	~44th %ile
Norms for 12 1/2 yr. olds	50.00		~50th %ile

Are there significant differences among the mean scores of each LOR group and the control group? Yes, at the .0018 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0122 level of significance?

Percentile Tables for Test Scores by Length of Residence

A primary objective of this investigation was to determine the feasibility of developing test criteria for ESL students based on their age and length of residence in their new country. Judging from the range of scores obtained for each test, at each LOR level, and from the manner in which these scores were distributed over the various test ranges, it would appear that development of test criteria, as described above, is indeed feasible. Ranges and percentiles for scores for each test, at each LOR level, are reported below. It should be borne in mind that these statistics are tentative, as they are based on the limited sample of students participating in this study.

For LOR1 (6-11 months)

	PPVT-R Raw Score	WJ-PC W Score	WJ-WS W Score
Range	7-131	436-518	459-517
%ile			
10th	9.4	441.0	467.0
20th	12.4	441.0	469.4
30th	16.0	452.0	475.4
40th	36.2	477.2	484.4
50th	53.0	487.0	489.0
60th	64.6	493.0	498.0
70th	73.6	497.8	502.0
80th	78.6	503.2	502.8
90th	100.2	513.6	512.2

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	3-37	3-73	4-31
%ile			
10th	3.5	8.4	8.6
20th	4.0	29.4	17.8
30th	5.5	37.8	23.0
40th	11.0	48.0	24.2
50th	20.0	55.0	25.0
60th	23.0	55.8	26.4
70th	28.0	60.8	27.0
80th	30.0	62.6	28.0
90th	34.0	69.4	31.0

	MAC-LC Raw Score
Range	6-25
%ile	
10th	6.8
20th	9.8
30th	12.2
40th	13.6
50th	16.0
60th	19.0
70th	20.0
80th	22.2
90th	24.6

For LOR2 (12-17 months)

	PPVT-R Raw Score	WJ-PC W Score	WJ-WS W Score
Range	7-161	441-524	463-522
%ile			
10th	22.3	452	475.0
20th	29.2	461	479.0
30th	36.7	473	485.2
40th	45.2	477	490.0
50th	57.5	484	494.0
60th	61.8	487	498.0
70th	69.2	490	498.0
80th	83.0	493	498.0
90th	95.1	505	505.2

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	3-37	7-74	7-33
%ile			
10th	5.4	33.8	15.3
20th	12.0	40.6	18.0
30th	17.0	43.2	20.0
40th	19.0	48.0	22.0
50th	23.0	52.0	23.0
60th	25.0	54.4	26.0
70th	27.0	58.0	27.1
80th	29.0	60.0	29.4
90th	31.0	65.2	31.0

	MAC-LC Raw Score
Range	1-25
%ile	
10th	8.0
20th	10.6
30th	13.0
40th	16.0
50th	17.5
60th	19.0
70th	20.0
80th	21.0
90th	24.7

For LOR3 (18-23 months)

	PPVT-R Raw Score	WJ-PC W Score	WJ-WS W Score
Range	16-108	452-510	467-509
%ile			
10th	34.2	455.2	471.8
20th	42.6	466.0	479.0
30th	48.2	470.0	482.8
40th	57.2	473.8	484.4
50th	60.0	480.0	489.0
60th	65.8	486.0	492.0
70th	73.0	493.0	494.6
80th	82.8	493.0	499.6
90th	94.0	502.6	506.0

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	0-33	2-70	0-32
%ile			
10th	5.0	28.8	8.8
20th	11.0	38.6	12.0
30th	14.0	45.4	20.2
40th	21.6	48.0	22.2
50th	23.0	51.0	24.0
60th	24.0	52.0	25.8
70th	25.3	54.6	27.6
80th	28.0	58.2	29.4
90th	29.1	65.2	31.0

	MAC-LC Raw Score	DRP Raw Score	TOWL-2TM Raw Score
Range	5-25	6-34	0-10
%ile			
10th	9.0	9.6	1.0
20th	10.6	12.0	3.0
30th	14.0	13.8	3.5
40th	15.0	16.0	4.0
50th	16.0	18.0	4.5
60th	18.0	19.0	5.0
70th	19.6	19.0	5.0
80th	20.4	24.6	6.0
90th	22.0	29.4	7.0

	TOWL-2CV Raw Score	TOWL-2SM Raw Score	TOWL-2CSp Raw Score
Range	0-17	0-146	13-214
%ile			
10th	1.5	4.5	54.6
20th	3.0	22.0	61.8
30th	4.0	36.5	72.8
40th	6.0	44.0	87.6
50th	6.5	52.0	101.0
60th	9.0	63.0	108.4
70th	9.0	80.0	123.6
80th	10.0	83.0	130.8
90th	12.0	117.5	165.4

	TOWL-2CSt Raw Score	TOWL-2Tot Standard Score
Range	0-14	10-71
%ile		
10th	1.5	25.0
20th	2.0	29.0
30th	4.0	33.5
40th	5.0	38.0
50th	6.0	40.0
60th	7.0	41.0
70th	8.0	44.0
80th	10.0	48.0
90th	12.0	54.5

For LOR4 (24-35 months)

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	2-40	34-74	5-33
%ile			
10th	14.8	43.4	17.6
20th	19.2	49.0	22.0
30th	23.1	53.1	22.8
40th	25.8	60.0	23.4
50th	28.0	63.5	25.0
60th	29.0	67.0	27.0
70th	31.0	67.0	28.0
80th	33.0	68.6	29.0
90th	34.0	70.3	30.0

	MAC-LC Raw Score	DRP Raw Score	TOWL-2TM Raw Score
Range	10-25	6-55	1-13
%ile			
10th	13.0	9.0	2.0
20th	15.0	14.0	4.0
30th	18.0	18.2	5.0
40th	19.0	20.6	5.0
50th	20.0	22.0	6.0
60th	21.0	23.8	6.6
70th	22.2	27.8	7.0
80th	23.0	36.0	8.0
90th	23.8	44.0	8.4

	TOWL-2CV Raw Score	TOWL-2SM Raw Score	TOWL-2CSp Raw Score
Range	2-24	13-177	52-205
%ile			
10th	5.0	28.8	80.6
20th	5.0	58.6	92.6
30th	8.0	78.6	102.6
40th	9.0	86.4	111.0
50th	10.0	95.0	124.0
60th	11.6	104.6	133.6
70th	13.0	114.4	150.6
80th	14.0	127.8	156.8
90th	16.4	147.8	177.4

	TOWL-2CSt Raw Score	TOWL-2Tot Standard Score
Range	1-20	22-65
%ile		
10th	2.0	30.8
20th	2.4	37.2
30th	5.8	42.0
40th	6.0	45.8
50th	7.0	49.0
60th	9.0	50.0
70th	10.0	51.2
80th	13.6	52.8
90th	15.0	57.4

For LOR5 (36-47 months)

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	5-40	34-74	9-32
%ile			
10th	17.2	49.1	14.0
20th	22.2	59.0	16.0
30th	25.0	61.3	19.0
40th	27.0	64.0	22.0
50th	28.0	66.0	25.0
60th	28.0	67.6	27.0
70th	30.0	69.7	29.0
80th	33.0	70.8	30.0
90th	34.0	73.0	31.0

	MAC-LC Raw Score	DRP Raw Score	TOWL-2TM Raw Score
Range	9-25	6-60	0-12
%ile			
10th	13.0	11.9	2.0
20th	17.0	15.8	3.0
30th	19.0	18.0	5.0
40th	21.0	20.6	6.0
50th	22.0	22.0	6.0
60th	23.0	26.4	7.0
70th	23.0	29.3	7.0
80th	23.0	34.0	8.0
90th	25.0	41.2	9.0

	TOWL-2CV Raw Score	TOWL-2SM Raw Score	TOWL-2CSp Raw Score
Range	0-25	0-293	5-306
%ile			
10th	4.0	40.0	50.0
20th	5.0	63.0	83.0
30th	7.0	73.0	94.0
40th	8.0	86.0	116.0
50th	9.0	100.0	127.0
60th	10.0	116.0	141.0
70th	11.0	126.0	166.0
80th	12.0	154.0	189.0
90th	18.0	194.0	217.0

	TOWLCSt Raw Score	TOWL-2Tot Standard Score
Range	0-21	10-76
%ile		
10th	2.0	28.0
20th	4.0	40.0
30th	4.0	43.0
40th	4.0	44.0
50th	7.0	45.0
60th	8.0	48.0
70th	9.0	53.0
80th	11.0	55.0
90th	14.0	61.0

For LOR6 (48-59 months)

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	14-39	32-74	14-33
%ile			
10th	21.0	48.6	17.5
20th	24.0	60.2	20.0
30th	26.0	65.0	22.0
40th	28.0	67.4	23.0
50th	29.0	69.0	23.5
60th	31.0	71.0	24.0
70th	32.0	72.0	27.0
80th	33.8	72.0	28.0
90th	34.4	73.0	29.0

	MAC-LC Raw Score	DRP Raw Score	TOWL-2TM Raw Score
Range	10-25	6-52	1-11
%ile			
10th	15.0	14.0	3.0
20th	16.0	15.0	4.0
30th	19.0	18.0	5.0
40th	20.0	22.0	6.0
50th	22.0	23.5	6.0
60th	23.0	29.0	7.0
70th	23.0	31.0	7.5
80th	23.0	35.0	8.0
90th	24.5	41.0	9.5

	TOWL-2CV Raw Score	TOWL-2SM Raw Score	TOWL-2CSp Raw Score
Range	1-26	18-226	44-246
%ile			
10th	3.5	42.0	67.0
20th	6.0	54.0	74.0
30th	7.5	65.5	88.0
40th	9.0	76.0	100.0
50th	9.0	87.5	112.0
60th	10.0	93.0	119.0
70th	12.0	115.0	133.5
80th	15.0	130.0	146.0
90th	22.0	198.0	210.5

	TOWL-2CSt Raw Score	TOWL-2Tot Standard Score
Range	2-22	20-73
%ile		
10th	2.0	31.5
20th	2.0	36.0
30th	4.0	38.0
40th	4.0	41.0
50th	4.0	43.0
60th	6.0	46.0
70th	7.0	52.0
80th	9.0	54.0
90th	13.5	65.0

For LOR7 (60-71 months)

	DTLA-2WO Raw Score	Mac-ORX Raw Score	MAT-SF Raw Score
Range	6-39	36-74	6-32
%ile			
10th	11.0	44.0	17.0
20th	17.0	47.0	21.0
30th	24.0	56.0	22.0
40th	26.0	63.0	25.0
50th	31.0	65.0	25.0
60th	31.0	68.0	26.0
70th	33.0	70.0	28.0
80th	34.0	72.0	29.0
90th	37.0	74.0	32.0

	MAC-LC Raw Score	DRP Raw Score	TOWL-2TM Raw Score
Range	5-25	6-60	0-11
%ile			
10th	12.0	10.0	3.0
20th	17.0	17.0	3.0
30th	18.0	19.0	4.0
40th	21.0	26.0	5.0
50th	21.0	30.0	6.0
60th	22.0	32.0	7.0
70th	23.0	37.0	9.0
80th	24.0	45.0	9.0
90th	25.0	52.0	10.0

	TOWL-2CV Raw Score	TOWL-2SM Raw Score	TOWL-2CSo Raw Score
Range	0-18	3-216	13-233
%ile			
10th	4.0	26.0	42.0
20th	5.0	37.0	73.0
30th	7.0	49.0	95.0
40th	8.0	70.0	99.0
50th	9.0	83.0	112.0
60th	11.0	110.0	120.0
70th	11.0	116.0	131.0
80th	13.0	131.0	149.0
90th	16.0	148.0	184.0

	TOWL-2CSt Raw Score	TOWL-2Tot Standard Score
Range	0-14	10-67
%ile		
10th	2.0	27.0
20th	2.0	38.0
30th	2.0	40.0
40th	4.0	41.0
50th	5.0	44.0
60th	6.0	45.0
70th	7.0	48.0
80th	7.0	50.0
90th	13.0	54.0

Control Group

	PPVT-R Raw Score	DTLA-2WO Raw Score	MAC-ORX Raw Score
Range	103-150	23-40	56-74
%ile			
10th	108.8	30.0	64.8
20th	110.8	31.0	69.8
30th	116.2	32.2	72.0
40th	119.0	33.6	72.0
50th	123.0	34.0	73.0
60th	125.4	35.0	73.0
70th	128.8	36.0	73.0
80th	131.0	37.0	74.0
90th	138.2	38.0	74.0

	MAT-SF Raw Score	MAC-LC Raw Score	DRP Raw Score
Range	12-31	15-25	15-60
%ile			
10th	21.0	17.0	24.2
20th	21.6	18.6	26.0
30th	23.0	21.0	31.2
40th	24.0	21.0	34.8
50th	25.0	22.0	36.0
60th	26.8	23.0	40.0
70th	28.0	23.1	45.4
80th	28.4	24.4	47.6
90th	29.0	25.0	53.0

	TOWL-2TM Raw Score	TOWL-2CV Raw Score	TOWL-2SM Raw Score
Range	3-11	3-34	16-227
%ile			
10th	3.3	4.6	38.4
20th	5.0	7.6	88.6
30th	6.0	9.0	100.6
40th	6.0	10.0	114.8
50th	7.0	11.0	130.0
60th	7.0	12.0	140.8
70th	8.0	13.1	152.2
80th	8.4	16.0	155.4
90th	9.0	17.7	176.0

	TOWL-2CSp Raw Score	TOWL-2CSt Raw Score	TOWL-2Tot Standard Score
Range	43-229	1-24	23-64
%ile			
10th	56.6	2.0	33.9
20th	96.0	4.0	40.6
30th	101.0	4.0	44.9
40th	121.8	5.0	47.0
50th	139.5	6.0	50.0
60th	146.6	6.8	52.0
70th	154.0	8.1	55.1
80th	162.4	11.4	59.0
90th	185.4	14.7	61.7

Teacher Rating Scale Results by Length of Residence

Comparisons to Native-Born, English-Speaking Canadians

This section of the study attempts to answer the following questions for the teacher ratings of speaking, listening, reading, and writing:

(1) What is the mean teacher rating for each LOR period and for the control group?

(2) What is the standard deviation for each LOR group, for the control group, and for all groups combined?

(3) Are there significant differences among the mean teacher ratings of each LOR group and of the control group? Such a determination is to be made by employing analysis of variance.

(4) If there are significant differences among mean teacher ratings of the various groups, are these differences significant in terms of linearity, i.e., do the teacher ratings increase in a linear fashion from the LOR group with the shortest length of residence, to the LOR group with the longest length of residence, to the control group? Such a determination is derived from the analysis of variance.

(5) During which LOR period, if any, do ESL students appear to "catch up" to native-born Canadians in speaking, listening, reading, and writing, based on teacher ratings?

Speaking in comparison to native-born Canadians

(Standard deviation for all groups combined = 1.4)

LOR/Control Group	Mean	S.D.
6-11 months	3.43	1.8
12-17 months	3.35	1.4
18-23 months	2.95	0.9
24-35 months	4.04	1.4
36-47 months	4.31	1.3
48-59 months	4.41	1.2
60-71 months	4.39	1.1
Control	4.88	1.0

Are there significant differences among the mean teacher ratings of each LOR group and the control group? Yes, at the .0000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0000 level of significance?

During which LOR period, if any, do ESL students appear to "catch up" to native-born Canadians in speaking, based on teacher ratings? If a rating of 4.0 were considered average on the Teacher Rating Scale, catch-up to average would occur at LOR4, the 24-35 month period. However, since teachers tended to rate controls, as a group, somewhat above average (a rating of 4.88), ESL catch-up to this rating did not seem to occur, even after six years.

Listening in comparison to native-born Canadians

(Standard deviation for all groups combined =1.5)

LOR/Control Group	Mean	S.D.
6-11 months	3.83	2.0
12-17 months	3.94	1.5
18-23 months	3.66	1.4
24-35 months	4.41	1.4
36-47 months	4.49	1.6
48-59 months	4.55	1.2
60-71 months	4.39	1.3
Control	4.65	1.0

Are there significant differences among the mean teacher ratings of each LOR group and the control group? Yes, at the .0000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0000 level of significance?

During which LOR period, if any, do ESL students appear to "catch up" to native-born Canadians in listening, based on teacher ratings? If a rating of 4.0 were considered average on the Teacher Rating Scale, catch-up to average would occur at LOR4, the 24-35 month period. However, since teachers tended to rate controls, as a group, somewhat above average (a rating of 4.65), ESL catch-up to this rating did not seem to occur, even after six years.

Reading in comparison to native-born Canadians

(Standard deviation for all groups combined =1.6)

LOR/Control Group	Mean	S.D.
6-11 months	3.34	1.8
12-17 months	3.25	1.6
18-23 months	2.95	1.4
24-35 months	4.02	1.6
36-47 months	4.02	1.7
48-59 months	4.27	1.4
60-71 months	4.25	1.5
Control	4.86	1.1

Are there significant differences among the mean teacher ratings of each LOR group and the control group? Yes, at the .0000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0000 level of significance?

During which LOR period, if any, do ESL students appear to "catch up" to native-born Canadians in reading, based on teacher ratings? If a rating of 4.0 were considered average on the Teacher Rating Scale, catch-up to average would occur at LOR4, the 24-35 month period. However, since teachers tended to rate controls, as a group, somewhat above average (a rating of 4.86), ESL catch-up to this rating did not seem to occur, even after six years.

Writing in comparison to native-born Canadians

(Standard deviation for all groups combined =1.5)

LOR/Control Group	Mean	S.D.
6-11 months	3.26	1.8
12-17 months	3.25	1.4
18-23 months	2.87	1.2
24-35 months	3.78	1.6
36-47 months	3.71	1.6
48-59 months	3.86	1.3
60-71 months	4.18	1.4
Control	4.49	1.4

Are there significant differences among the mean teacher ratings of each LOR group and the control group? Yes, at the .0000 level of significance.

Are these differences significant in terms of linearity? Yes, at the .0000 level of significance?

During which LOR period, if any, do ESL students appear to "catch up" to native-born Canadians in writing, based on teacher ratings? If a rating of 4.0 were considered average on the Teacher Rating Scale, catch-up to average would occur at LOR7, the 60-71 month period. However, since teachers tended to rate controls, as a group, somewhat above average (a rating of 4.49), ESL catch-up to this rating did not seem to occur, even after six years.

Comparison of ESL Students to Other ESL Students of Similar Age and Similar Length of Residence

This section of the study attempts to answer the following questions for the teacher ratings of speaking, listening, reading, writing, and hours of special support provided:

(1) What is the mean teacher rating for each LOR period?

(2) What is the standard deviation for each LOR group and for all LOR groups combined?

(3) Are there significant differences among the mean teacher ratings of each LOR group? This determination is to be made by employing analysis of variance.

(4) If there are significant differences among mean teacher ratings of the various groups, are these differences significant in terms of linearity, i.e., do the teacher ratings increase in a linear fashion from the LOR group with the shortest length of residence to the LOR group with the longest length of residence? Such a determination is derived from the analysis of variance.

(5) Are there any observable trends in the way teachers rate ESL students, in terms of LOR?

Speaking - Comparison of ESL students to other ESL students of similar age and LOR

(Standard deviation for all groups combined =1.4)

LOR	Mean	S.D.
6-11 months	4.75	1.8
12-17 months	4.80	1.5
18-23 months	4.56	1.3
24-35 months	5.28	1.4
36-47 months	4.96	1.5
48-59 months	5.28	1.3
60-71 months	5.10	1.1

Are there significant differences among the mean teacher ratings of each LOR group? No.

Are there any observable trends in the way teachers rate ESL students in speaking, in terms of their LOR? Yes. Teachers tend to rate ESL students higher than average at all LOR levels, and this tendency to over-rate begins to become somewhat more pronounced at LOR4, the 24-35 month period.

Listening - Comparison of ESL students to other ESL students of similar age and LOR

(Standard deviation for all groups combined = 1.4)

LOR	Mean	S.D.
6-11 months	4.95	1.7
12-17 months	4.94	1.6
18-23 months	4.76	1.3
24-35 months	5.28	1.4
36-47 months	5.00	1.6
48-59 months	5.19	1.2
60-71 months	5.11	1.3

Are there significant differences among the mean teacher ratings of each LOR group? No.

Are there any observable trends in the way teachers rate ESL students in listening, in terms of their LOR? Yes. Teachers tend to rate ESL students higher than average at all LOR levels, and this tendency to over-rate begins to become somewhat more pronounced at LOR4, the 24-35 month period.

Reading - Comparison of ESL students to other ESL students of similar age and LOR

(Standard deviation for all groups combined = 1.6)

LOR	Mean	S.D.
6-11 months	4.85	1.8
12-17 months	4.71	1.7
18-23 months	4.35	1.5
24-35 months	5.09	1.4
36-47 months	4.74	1.6
48-59 months	4.98	1.5
60-71 months	4.86	1.5

Are there significant differences among the mean teacher ratings of each LOR group? No.

Are there any observable trends in the way teachers rate ESL students in reading, in terms of their LOR? Yes. Teachers tend to rate students higher than average at all LOR levels.

Writing - Comparison of ESL students to other ESL students of similar age and LOR

(Standard deviation for all groups combined = 1.6)

LOR	Mean	S.D.
6-11 months	4.80	1.9
12-17 months	4.75	1.5
18-23 months	4.38	1.6
24-35 months	5.12	1.4
36-47 months	4.60	1.8
48-59 months	4.74	1.6
60-71 months	4.89	1.4

Are there significant differences among the mean teacher ratings of each LOR group? No.

Are there any observable trends in the way teachers rate ESL students in writing, in terms of their LOR? Yes. Teachers tend to rate students higher than average at all LOR levels.

Hours per week of special support outside of normal classroom time

(Standard deviation for all groups combined = 3.8)

LOR/Control Group	Mean	S.D.
6-11 months	5.09	3.7
12-17 months	4.43	4.6
18-23 months	3.50	3.8
24-35 months	1.96	2.8
36-47 months	1.43	3.3
48-59 months	1.12	3.6
60-71 months	1.11	4.0
Controls	0.07	0.3

Are there significant differences among the mean scores of each LOR group? Yes, at the .0000 level of significance.

Are there significant differences in terms of linearity? Yes, at the .0000 level.

Are there any observable trends in the way ESL students are prescribed special support, in terms of their LOR? Yes. Teachers tend to prescribe the greatest amount of special support (5+ hours per week) for ESL students during LOR1, and such support gradually tapers off (to 1+ hours per week) through LOR7, the sixth year in their new country. This compares to .07 hours of special support per week offered to non-Special Education, native-born, English-speaking Canadians.

Correlation of Test Scores with Teacher Rating Scale Results

In order to assess the validity of test scores, an attempt was made to correlate test scores with teacher ratings, using Pearson correlations. Scores on fourteen tests were examined. Raw scores were used for all tests with the exception of the two Woodcock-Johnson subtests, where W scores were used -- and with the exception of the TOWL-2 Overall score, where Standard Scores were used. Test scores were correlated with eight teacher ratings for the experimental group and with four teacher ratings for the control group. One set of correlations was run for all subjects grouped together (both experimental and control), one set of correlations was run for the control group alone, one set of correlations was run for the experimental group as a whole, and one set of correlations was run for each of the seven LOR experimental groups. The fourteen tests examined in the correlations were:

(1) Peabody Picture Vocabulary Test-Revised, Form L
(2) Woodcock-Johnson Tests of Achievement, Passage Comprehension
(3) Woodcock-Johnson Tests of Achievement, Writing Samples
(4) Detroit Tests of Learning Aptitude 2, Word Opposites
(5) Maculaitis Assessment Program, Oral Expression
(6) Matrix Analogies Test-Short Form
(7) Maculaitis Assessment Program, Listening Comprehension
(8) Degrees of Reading Power, Form E
(9) Test of Written Language-2, Thematic Maturity
(10) Test of Written Language-2, Contextual Vocabulary
(11) Test of Written Language-2, Syntactic Maturity
(12) Test of Written Language-2, Contextual Spelling
(13) Test of Written Language-2, Contextual Style
(14) Test of Written Language-2, Overall

The eight teacher ratings (derived from the Teacher Rating Scale) used in the correlations were for:

(1) Speaking, compared to native-born Canadians
(2) Listening, compared to native-born Canadians
(3) Reading, compared to native-born Canadians
(4) Writing, compared to native-born Canadians
(5) Speaking, compared to other ESL students of similar age and similar LOR
(6) Listening, compared to other ESL students of similar age and similar LOR
(7) Reading, compared to other ESL students of similar age and similar LOR
(8) Writing, compared to other ESL students of similar age and similar LOR

Correlations were also examined between test scores and number of hours per week of special support (beyond regular classroom instruction) received by ESL students.

<u>Correlations of test scores with teacher ratings for the experimental group and control group combined</u>

For the overall group (experimental and control groups combined), Pearson correlations between all test scores and all teacher ratings were extremely high. All correlations, with the exception of two, were at less than the .001 level of significance. A correlation at the .001 level of significance was obtained between TOWL-2 Contextual Spelling scores and speaking ratings comparing subjects to native-born Canadians. A correlation at the .013 level was obtained between TOWL-2 Contextual Style scores and speaking ratings comparing ESL students to other ESL students of similar age and similar LOR.

In correlating all test scores with the number of hours per week of special support (beyond regular classroom instruction) received by students, there was an extremely high negative correlation. That is, the higher the scores the students obtained, the less special support was being provided by their schools. This high negative correlation translated into levels of significance less than .001 for all tests with the exception of two. Correlations at the .001 level of significance were obtained between the TOWL-2 Contextual Spelling scores and the number of hours of special support received by students, and between the TOWL-2 Contextual Style scores and the number of hours of special support received by students.

Correlations of test scores with teacher ratings for the control group alone

For the control group alone, correlations were obtained between twelve test scores (not fourteen, since the two Woodcock-Johnson subtests were not administered to this group) and four teacher ratings (not eight, since controls were rated only against native-born, English speaking Canadians and not against ESL students). Results for each test are described below:

(1) PPVT-R, Form L - significant correlations at the .038 level, .044 level, and .035 level were obtained between the PPVT-R and teacher ratings of speaking, listening, and reading, respectively. No significant correlation was obtained between the PPVT-R and the teacher rating of writing.

(2) DTLA-2 Word Opposites - No correlations were significant at the .05 level with any of the four teacher ratings.

(3) Maculaitis Oral Expression - No correlations were significant at the .05 level between this test and teacher ratings of speaking and listening. Significant correlations at the .046 level were obtained between Maculaitis Oral Expression scores and teacher ratings of both reading and writing.

(4) Matrix Analogies Test-Short Form - No correlations were significant at the .05 level with any of the four teacher ratings.

(5) Maculaitis Listening Comprehension - Significant correlations of .033 and .050 were obtained between this test and the teacher ratings of speaking and listening, respectively. No significant correlations were obtained between the Maculaitis Listening Comprehension test and teacher ratings of reading (.051 level of significance) and writing.

(6) Degrees of Reading Power, Form E - This test proved to correlate highly with all four teacher ratings. Significant correlations were obtained between the DRP and teacher ratings of speaking (.003 level), listening, (.001 level), reading (.000 level), and writing (.002 level).

(7) Test of Written Language-2, all five subtests plus Overall score - No correlations were significant at the .05 level with any of the four teacher ratings.

When the twelve tests administered in this category were correlated with hours of special support (beyond regular classroom instruction) received by students, only three tests showed a high enough negative correlation to be significant (less than .05). These tests were the PPVT-R, MAT, and TOWL-2 TM.

Correlation of test scores with teacher ratings for the experimental group (all LOR groups combined)

All fourteen tests had extremely high correlations with all eight teacher ratings. All correlations were at the .000 level of significance with the exception of the following two:

TOWL-2, Contextual Spelling - a correlation at the .001 level of significance was obtained between this test and the teacher rating of speaking in comparison with native-born, English-speaking Canadians.

TOWL-2, Contextual Style - a correlation at the .018 level of significance was obtained between this test and the teacher rating of speaking in comparison with other ESL students of similar age and LOR.

In correlating the fourteen test scores with the number of hours of special support (beyond regular classroom instruction) received by students, there was an extremely high negative correlation. All tests, with the exception of two, had correlations which translated into the .000 level of significance. The two TOWL-2 subtests of Contextual Spelling and Contextual Style correlated with hours of special support at the .001 level.

Correlation of test scores with teacher ratings for the experimental group LOR1 (6-11 months in Canada)

Only seven tests were administered to this group: PPVT-R, W-J Passage Comprehension, W-J Writing Samples, DTLA-2 Word Opposites, Maculaitis Oral Expression, MAT-SF, and Maculaitis Listening Comprehension. Significant correlations, at less than the .05 level, were obtained between all of these tests and the eight teacher ratings, with one exception. The MAT-SF was significantly correlated with only two teacher ratings, reading (.023 level of significance) and writing (.028 level of significance), in comparison with other ESL students of similar age and similar LOR.

A similar pattern emerged when the seven tests administered in this category were correlated with hours of special support received by students. All tests showed a high negative correlation with hours of support, with the exception of the MAT-SF. The six tests showing the high negative correlation did so at the .000 level of significance. The correlation between the MAT-SF and hours of support was at the .293 level of significance.

Correlation of test scores with teacher ratings for the experimental group LOR2 (12 -17 months in Canada)

Only seven tests were administered to this group: PPVT-R, W-J Passage Comprehension, W-J Writing Samples, DTLA-2 Word Opposites, Maculaitis Oral Expression, MAT-SF, and Maculaitis Listening Comprehension. Significant correlations, at less than the .05 level, were obtained between all of these tests and the eight teacher ratings, with one exception. The MAT-SF was significantly correlated with all teacher ratings except speaking in comparison to native-born English-speaking Canadians, which was at the .075 level of significance.

A similar pattern emerged when the seven tests administered in this category were correlated with hours of special support received by students. All tests showed a high negative correlation with hours of support, with the exception of the MAT-SF. The six tests showing the high negative correlation did so at the .019 level of significance or less. The correlation between the MAT-SF and hours of support was at the .167 level of significance.

Correlation of test scores with teacher ratings for the experimental group LOR3 (18 -23 months in Canada)

All fourteen tests were administered to students in this group. Some tests were significantly correlated with some of the eight teacher ratings, but no particular patterns seemed to emerge among these correlations, as outlined below:

(1) Peabody Picture Vocabulary Test-Revised, Form L - this test correlated significantly with

BEST COPY AVAILABLE

only one teacher rating: speaking in comparison to native-born, English-speaking Canadians. The correlation was at the .020 level of significance.

(2) Woodcock-Johnson Tests of Achievement, Passage Comprehension - No correlations were significant at the .05 level with any of the eight teacher ratings.

(3) Woodcock-Johnson Tests of Achievement, Writing Samples - No correlations were significant at the .05 level with any of the eight teacher ratings.

(4) Detroit Tests of Learning Aptitude 2, Word Opposites - this test correlated significantly with only one teacher rating: speaking in comparison to native-born, English-speaking Canadians. The correlation was at the .023 level of significance.

(5) Maculaitis Oral Expression - this test correlated significantly with only one teacher rating: speaking in comparison to native-born, English-speaking Canadians. The correlation was at the .004 level of significance.

(6) Matrix Analogies Test-Short Form - this test correlated significantly with six of the eight teacher ratings. The two ratings with which it did not correlate significantly were the speaking ratings in comparison to both native-born Canadian and ESL groups.

(7) Maculaitis Listening Comprehension - this test correlated significantly with four of the eight teacher ratings: reading and writing in comparison to native-born Canadians and listening and writing in comparison to other ESL students of similar age and LOR.

(8) Degrees of Reading Power, Form E - this test correlated significantly with four teacher ratings: reading and writing in comparison to native-born Canadians and listening and writing in comparison to other ESL students of similar age and LOR.

(9) Test of Written Language-2, Thematic Maturity - this test correlated significantly with six teacher ratings: reading and writing in comparison to native-born Canadians and speaking, listening, reading, and writing in comparison to other ESL students.

(10) Test of Written Language-2, Contextual Vocabulary - this test correlated significantly with seven of the eight teacher ratings. The one rating with which it did not correlate significantly was listening in comparison to native-born Canadians.

(11) Test of Written Language-2, Syntactic Maturity - this test correlated significantly with three of the eight teacher ratings: writing in comparison to native-born Canadians and listening and writing in comparison to other ESL students.

(12) Test of Written Language-2, Contextual Spelling - this test correlated significantly with four of the eight teacher ratings: reading and writing in comparison to native-born Canadians and listening and writing in comparison to other ESL students.

(13) Test of Written Language-2, Contextual Style - this test correlated significantly with six of the eight teacher ratings: listening, reading, and writing in comparison to native-born Canadians and listening, reading, and writing in comparison to other ESL students.

(14) Test of Written Language-2, Overall - this test correlated significantly with three of the eight teacher ratings: reading and writing in comparison to native-born Canadians and listening and writing in comparison to other ESL students.

When the fourteen tests administered in this category were correlated with hours of special support received by students, only four tests showed a high enough negative correlation to be significant.

These tests were the W-J Writing Samples, DTLA-2 Word Opposites, Degrees of Reading Power, and TOWL-2 Contextual Style.

Correlation of test scores with teacher ratings for the experimental group LOR4 (24 -35 months in Canada)

Eleven of fourteen tests were administered to this group. Many of the tests were significantly correlated with many of the eight teacher ratings, but no particular patterns seemed to emerge among these correlations, as outlined below:

(1) Detroit Tests of Learning Aptitude-2, Word Opposites - this test correlated significantly with all eight teacher ratings.

(2) Maculaitis Oral Expression - this test correlated significantly with seven of the eight teacher ratings: speaking, reading, and writing in comparison to native-born Canadians and speaking, listening, reading and writing in comparison to other ESL students.

(3) Matrix Analogies Test-Short Form - this test correlated significantly with only two of the eight teacher ratings: reading and writing in comparison to native-born Canadians.

(4) Maculaitis Listening Comprehension - this test correlated significantly with all eight teacher ratings.

(5) Degrees of Reading Power, Form E - this test correlated significantly with five of the eight teacher ratings: speaking, listening, reading, and writing in comparison to native-born Canadians and speaking in comparison to other ESL students.

(6) Test of Written Language-2, Thematic Maturity - this test correlated significantly with four of the eight teacher ratings: listening and reading in comparison to native-born Canadians and reading and writing in comparison to other ESL students.

(7) Test of Written Language-2, Contextual Vocabulary - this test correlated significantly with seven of the eight teacher ratings: speaking, listening, reading, and writing in comparison to native-born Canadians and speaking, reading, and writing in comparison to other ESL students. The correlation between this test and listening in comparison to other ESL students was significant at the .051 level.

(8) Test of Written Language-2, Syntactic Maturity - this test correlated significantly with four of the eight teacher ratings: reading and writing in comparison to native-born Canadians and reading and writing in comparison to other ESL students.

(9) Test of Written Language-2, Contextual Spelling - this test correlated significantly with two of the eight teacher ratings: reading in comparison to both native-born Canadians and other ESL students.

(10) Test of Written Language-2, Contextual Style - this test correlated significantly with three of the eight teacher ratings: speaking, reading, and writing in comparison to native-born Canadians.

(11) Test of Written Language-2, Overall - this test correlated significantly with six of the eight teacher ratings: speaking, listening, reading, and writing in comparison to native-born Canadians and reading and writing in comparison to other ESL students.

When the eleven tests administered in this category were correlated with hours of special support received by students, seven tests showed a high enough negative correlation to be significant.

These tests were the DTLA-2 Word Opposites, MAT-SF, Maculaitis Listening Comprehension, Degrees of Reading Power, TOWL-2 Thematic Maturity, TOWL-2 Contextual Style, and TOWL-2 Overall.

Correlation of test scores with teacher ratings for the experimental group LOR5 (36 -47 months in Canada)

Eleven of fourteen tests were administered to this group. Many of the tests were significantly correlated with many of the eight teacher ratings, but no particular patterns seemed to emerge among these correlations, as outlined below:

(1) Detroit Tests of Learning Aptitude-2, Word Opposites - this test correlated significantly with all eight teacher ratings.

(2) Maculaitis Oral Expression - this test correlated significantly with all eight teacher ratings.

(3) Matrix Analogies Test-Short Form - this test correlated significantly with two of the eight teacher ratings: speaking and listening in comparison to native-born Canadians.

(4) Maculaitis Listening Comprehension - this test correlated significantly with four of the eight teacher ratings: speaking, listening, reading, and writing in comparison to native-born Canadians.

(5) Degrees of Reading Power, Form E - this test correlated significantly with all eight teacher ratings.

(6) Test of Written Language-2, Thematic Maturity - this test correlated significantly with five of the eight teacher ratings: listening and writing in comparison to native-born Canadians and listening, reading, and writing in comparison to other ESL students. The correlation between this test and reading in comparison to native-born Canadians was significant at the .052 level.

(7) Test of Written Language-2, Contextual Vocabulary - this test correlated significantly with all eight teacher ratings.

(8) Test of Written Language-2, Syntactic Maturity - this test correlated significantly with all teacher ratings with the exception of speaking in comparison to native-born Canadians. This latter correlation was at the .052 level of significance.

(9) Test of Written Language-2, Contextual Spelling - this test correlated significantly with all teacher ratings with the exception of speaking in comparison to native-born Canadians. This latter correlation was at the .249 level of significance.

(10) Test of Written Language-2, Contextual Style - this test correlated significantly with five of the eight teacher ratings: speaking, listening, reading, and writing in comparison to native-born Canadians and reading in comparison to other ESL students.

(11) Test of Written Language-2, Overall - this test correlated significantly with all eight teacher ratings.

When the eleven tests administered in this category were correlated with hours of special support received by students, eight tests showed a high enough negative correlation to be significant. These tests were the DTLA-2 Word Opposites, Maculaitis Oral Expression, MAT-SF, Maculaitis Listening Comprehension, Degrees of Reading Power, TOWL-2 Contextual Vocabulary, TOWL-2 Contextual Style, and TOWL-2 Overall.

Correlation of test scores with teacher ratings for the experimental group LOR6 (48 -59 months in Canada)

Eleven of fourteen tests were administered to this group. Many of the tests were significantly correlated with many of the eight teacher ratings, but no particular patterns seemed to emerge among these correlations, as outlined below:

(1) Detroit Tests of Learning Aptitude-2, Word Opposites - this test correlated significantly with all eight teacher ratings.

(2) Maculaitis Oral Expression - this test correlated significantly with six of the eight teacher ratings: speaking, reading, and writing in comparison to both native-born Canadians and other ESL students.

(3) Matrix Analogies Test-Short Form - this test did not correlate significantly with any of the eight teacher ratings.

(4) Maculaitis Listening Comprehension - this test correlated significantly with all eight teacher ratings.

(5) Degrees of Reading Power, Form E - this test correlated significantly with six of the eight teacher ratings: speaking, reading, and writing in comparison to both native-born Canadians and other ESL students. The two ratings with which the DRP did not correlate significantly were for listening (in comparison to both native-born Canadians and other ESL students), and both were at the .051 level of significance.

(6) Test of Written Language-2, Thematic Maturity - this test did not correlate significantly with any of the eight teacher ratings.

(7) Test of Written Language-2, Contextual Vocabulary - this test correlated significantly with six of the eight teacher ratings: reading and writing in comparison to native-born Canadians and speaking, listening, reading, and writing in comparison to other ESL students.

(8) Test of Written Language-2, Syntactic Maturity - this test correlated significantly with two of the eight teacher ratings: reading in comparison to both native-born Canadians and other ESL students.

(9) Test of Written Language-2, Contextual Spelling - this test correlated significantly with six of the eight teacher ratings: reading and writing in comparison to native-born Canadians and speaking, listening, reading, and writing in comparison to other ESL students.

(10) Test of Written Language-2, Contextual Style - this test correlated significantly with six of the eight teacher ratings: listening, reading, and writing in comparison to both native-born Canadians and other ESL students.

(11) Test of Written Language-2, Overall - this test correlated significantly with five of the eight teacher ratings: reading and writing in comparison to native-born Canadians and listening, reading, and writing in comparison to other ESL students.

When the eleven tests administered in this category were correlated with hours of special support received by students, eight tests showed a high enough negative correlation to be significant. These tests were the DTLA-2 Word Opposites, Maculaitis Oral Expression, Maculaitis Listening Comprehension, Degrees of Reading Power, TOWL-2 Thematic Maturity, TOWL-2 Syntactic Maturity, TOWL-2 Contextual Spelling, and TOWL-2 Overall.

Correlation of test scores with teacher ratings for the experimental group LOR7 (60 -71 months in Canada)

Eleven of fourteen tests were administered to this group. Many of the tests were significantly correlated with many of the eight teacher ratings, but no particular patterns seemed to emerge among these correlations, as outlined below:

(1) Detroit Tests of Learning Aptitude-2, Word Opposites - this test correlated significantly with seven of the eight teacher ratings. The rating with which it did not correlate significantly was listening in comparison to native-born Canadian students.

(2) Maculaitis Oral Expression - this test correlated significantly with seven of the eight teacher ratings. The only rating with which it did not correlate significantly was listening in comparison to native-born Canadian students.

(3) Matrix Analogies Test-Short Form - this test correlated significantly with seven of the eight teacher ratings. The only rating with which the MAT-SF did not correlate significantly was listening in comparison to native-born Canadian students, and this correlation was at the .054 level.

(4) Maculaitis Listening Comprehension - this test correlated significantly with all eight teacher ratings.

(5) Degrees of Reading Power, Form E - this test correlated significantly with seven of the eight teacher ratings. The only rating with which it did not correlate significantly was listening in comparison to native-born Canadian students.

(6) Test of Written Language-2, Thematic Maturity - this test correlated significantly with five of the eight teacher ratings: speaking, listening, and reading in comparison to native-born Canadians and reading and writing in comparison to other ESL students.

(7) Test of Written Language-2, Contextual Vocabulary - this test correlated significantly with four of the eight teacher ratings: reading and writing in comparison to both native-born Canadians and other ESL students.

(8) Test of Written Language-2, Syntactic Maturity - this test correlated significantly with all eight teacher ratings.

(9) Test of Written Language-2, Contextual Spelling - this test correlated significantly with all eight teacher ratings.

(10) Test of Written Language-2, Contextual Style - this test correlated significantly with three of the eight teacher ratings: speaking in comparison to native-born Canadians and speaking and reading in comparison to other ESL students.

(11) Test of Written Language-2, Overall - this test correlated significantly with six of the eight teacher ratings: speaking, reading, and writing in comparison to both native-born Canadians and other ESL students.

When the eleven tests administered in this category were correlated with hours of special support received by students, six tests showed a high enough negative correlation to be significant. These tests were the MAT-SF, TOWL-2 Thematic Maturity, TOWL-2 Contextual Vocabulary, TOWL-2 Syntactic Maturity, TOWL-2 Contextual Spelling, and TOWL-2 Overall.

Parent Interview Results Overall

The following is a summary of parent interview results for all experimental group (ESL) students combined:

Relationship of person interviewed to student:

Mother - 64.7%
Father - 30.0%
Aunt - 2.5%
Uncle - 0.4%
Grandfather - 0.6%
Stepmother - 0.4%
Older Sibling - 1.4%

Status in Canada:

Canadian Citizen - 19.1%
Landed Immigrant - 63.8%
Application for Landed Immigrant Status has been made - 7.1%
Parent has a work permit - 2.8%
Student covered under parent(s) student visa - 0.4%
Minister's Permit - 0.4%
Refugee Claimant (Temporary) - 6.4%

With what people does student reside? (Can be more than one)

Mother - 96.9%
Father - 86.0%
Guardian - 1.0%
Brothers or Sisters - 87.8%
Other Relatives - 17.1%
Other People - 1.7%

How many schools did your child attend before moving to Canada?

0 - 5.3%
1 - 71.3%
2 - 17.7%
3 - 3.9%
4 - 1.4%
5 - 0.4%

What was (were) the main language(s) of instruction in the schools attended?

First Language

Amharic - 0.4%
Arabic - 2.6%
Cantonese - 11.2%
English - 13.4
French - 0.7%
German - 0.4%
Greek - 0.4%
Gujarati - 0.7%
Hebrew - 6.7%
Hindi - 1.1%
Hungarian - 1.1%
Italian - 0.4%
Japanese - 3.0%
Korean - 4.9%

Lao - 0.4%
Macedonian - 0.4%
Mandarin - 6.7%
Persian/Farsi - 10.1%
Polish - 1.1%
Punjabi - 2.2%
Romanian - 2.2%
Russian - 9.7%
Serbo-Croatian - 0.4%
Sinhalese - 0.4%
Somali - 1.5%
Spanish - 7.1%
Tagalog/Pilipino - 0.4%
Tamil - 2.2%
Thai - 0.4%
Turkish - 0.4%
Twi - 1.1%
Ukrainian - 0.4%
Urdu - 0.7%
Vietnamese - 4.5%
Other Indian (Asia) - 0.4%
Other Asian (Excluding Indian and Chinese) - 0.4%

Second Language - 22% of ESL students surveyed in this investigation received instruction at school in a second language before arriving in Canada. Of those students who did receive second language instruction at school, prior to moving to Canada, their second languages were as follows:

Amharic - 3.4%
Arabic - 5.1%
Cantonese - 8.5%
English - 57.6%
French - 1.7%
German - 6.8%
Hindi - 3.4%
Italian - 1.7%
Mandarin - 1.7%
Punjabi - 1.7%
Spanish - 1.7%
Twi - 1.7%
Urdu - 5.1%

Third Language - 1.5% of ESL students (totalling 4 in number) surveyed in this investigation received instruction at school in a third language before arriving in Canada. Of those students who did receive third language instruction at school, prior to moving to Canada, their third languages were as follows:

Greek - 25%
Hindi - 25%
Tagalog/Pilipino - 25%
Other Asian (Exclusing Indian and Chinese) - 25%

Fourth Language - No students received instruction at school in a fourth language prior to moving to Canada.

What kind of school did your child last attend before moving to Canada?
Of those students who attended school before moving to Canada, the responses were as follows:

Public - 67.7%
Private - 21.8%
Refugee Camp - 1.1%
Other - 9.4%

(If the answer to the above question was "Other") **Please specify the kind of school your child attended before moving to Canada.**
Of the 9.4% of students (25 in number) who attended "Other" schools, the following responses were obtained:

Missionary school, government subsidized - 84%
Language School - 12%
Other - 4%

Before moving to Canada, how many years did your child attend school?
Of those students who attended school before moving to Canada, the length of their pre-Canada school attendance was as follows:

1 year - 11.3%
2 years - 10.9%
3 years - 18.0%
4 years - 22.2%
5 years - 23.7%
6 years - 12.0%
7 years - 1.1%
8 years - 0.4%
9 years - 0.4%

Before moving to Canada, how many hours per day did your child attend school?
Of those students who attended school before moving to Canada, the number of hours per day of their pre-Canada school attendance was as follows:

<3 hours- 0.0%
3 hours - 1.9%
4 hours - 14.3%
5 hours - 34.2%
6 hours - 30.5%
7 hours - 12.8%
8 hours - 6.4%
>8 hours- 0.0%

Before moving to Canada, how regularly did your child attend school?
Of those students who attended school before moving to Canada, the regularity of their pre-Canada school attendance was as follows:

All or almost all the time - 97.0%
More than half the time - 0.4%
About half the time - 0.4%
Less than half the time - 1.5%
Occasionally - 0.4%
Rarely - 0.4%

Before moving to Canada, did your child study English either at school or outside of school?

Yes - 54%
No - 46%

(For those students who previously studied English) **Before moving to Canada, in what kind of setting did your child study English?**

Public School - 34.0%
Private School - 28.2%
Language School - 6.4%
Private Tutor - 11.5%
Other - 19.9%

(For those who answered "Other" to the above question) **Please specify the kind of setting in which your child studied English.**

Refugee camp school - 12%
Missionary school, government subsidized - 67.0%
Taught by parents - 15%
Taught by relative other than parent - 3%
ESL School - 3%

(For those students who previously studied English, i.e., 53% of the total sample) **Before moving to Canada, over what period of time did your child study English?**

1 to 3 months - 3.9%
4 to 6 months - 7.2%
7 to 12 months - 17.0%
13 to 24 months - 16.3%
25 to 36 months - 11.1%
Longer than 36 months - 44.4%

(For those students who previously studied English, i.e., 54% of the total sample) **Before moving to Canada, how many hours per week did your child study English?**

Less than 1 hour - 4.5%
1 to 3 hours - 31.6%
4 to 6 hours - 31.6%
7 to 10 hours - 7.7%
10 to 15 hours - 5.8%
More than 15 hours - 18.7%

Before moving to Canada, to what extent was your child exposed to English, other than through formal study, such as through relatives, friends, neighbors, TV, radio, books, etc.?

Not at all - 61.8%
Hardly ever - 10.7%
At least once a month - 2.1%
At least once a week - 7.1%
Daily or almost daily - 18.2%

Before moving to Canada, to what extent was your child able to communicate in English (in the following areas)?

Speaking

Not at all - 62.5%
Very little - 18.2%
Moderately well - 9.3%
Good - 8.9%
Excellent - 1.1%

Listening

Not at all - 55.0%
Very little - 21.2%
Moderately well - 12.2%

70

Good - 9.4%
Excellent - 2.2%

Reading

Not at all - 54.0%
Very little - 21.2%
Moderately well - 13.7%
Good - 7.9%
Excellent - 3.2%

Writing

Not at all - 54.3%
Very little - 21.8%
Moderately well - 13.2%
Good - 8.6%
Excellent - 2.1%

Before moving to Canada, how many languages were spoken in your home?

1 - 68.6%
2 - 25.4%
3 - 5.0%
4 - 0.7%
5 - 0.4%

What were these languages, in order of usage?

First Language - the first languages spoken most prevalently in the homes of students participating in this study were: Cantonese (13%), Persian/Farsi (11.3%), Russian (9.5%), Spanish (8.8%), Hebrew (5.6%), Mandarin (5.3%), Vietnamese (5.3%), Koreann(4.9%), Punjabi (3.2%), Arabic (3.2%), Tamil (2.8%), Japanese (2.5%), Urdu (2.5%), and Romanian (2.1%). All other first languages comprised less than 2%.

Second Language - the second languages spoken most prevalently in the homes of students participating in this study (in homes where at least two languages were spoken) were: English (29.7%), Other Chinese (12.1%), Russian (9.9%), Punjabi (4.4%), Vietnamese (4.4%), Other African (4.4%), Hebrew (3.3%), Mandarin (3.3%), Persian/Farsi (3.3%), Cantonese (2.2%), and German (2.2%). All other second languages comprised less than 2%.

Third Language - the third languages spoken most prevalently in the homes of students participating in this study (in homes where at least three languages were spoken) were: English (17.6%), Swahili (11.8%), Other African (11.8%), Fukienese (5.9%), Hakka (5.9), Hebrew (5.9%), Hindi (5.9%), Korean (5.9%), Punjabi (5.9%), Ukrainian (5.9%), Yiddish (5.9%), Other Asian excluding Indian and Chinese (5.9%), and Other European (5.9%).

Fourth Language - the fourth languages spoken most prevalently in the homes of students participating in this study (in homes where four languages were spoken) were: English (66.7%, or two homes) and Other African (33.3%, or one home)

Before moving to Canada, how many languages was your child able to speak at a reasonable level of fluency?

1 - 66.7%
2 - 27.3%
3 - 5.3%
4 - 0.7%

What were these languages, in order of fluency?

First language in order of fluency:

Amharic - 0.7%
Arabic - 3.2%
Cantonese - 13.0%
Chiu Chow - 0.4%
Dari - 0.4%
English - 2.8%
French - 0.4%
Fukienese - 0.4%
German - 0.4%
Greek - 0.4%
Gujarati - 0.7%
Hebrew - 6.0%
Hindi - 1.4%
Hungarian - 1.4
Japanese - 2.8%
Khmer - 0.4%
Korean - 4.9%
Lao - 0.7%
Macedonian - 0.4%
Mandarin - 5.6%
Persian/Farsi - 10.2%
Polish - 1.1%
Punjabi - 3.5%
Romanian - 2.1%
Russian - 9.5%
Serbo-Croatian - 0.4%
Sinhalese - 0.4%
Somali - 1.4%
Spanish - 9.2%
Tagalog/Pilipino - 0.4%
Tamil - 2.8%
Thai - 0.4%
Turkish - 0.4%
Twi - 1.4%
Ukrainian - 0.7%
Urdu - 2.5%
Vietnamese - 5.3%
Other African - 0.7%
Other Indian (Asia) - 0.7%
Other Asian (Excluding Indian and Chinese) - 0.4%
Other - 0.4%

Second language in order of fluency, for those students able to speak at least two languages:

Amharic - 1.1%
Cantonese - 2.1%
Chiu Chow - 1.1%
Dutch/Flemish - 1.1%
English - 29.5%
French - 2.1%
German - 5.3%
Gujarati - 3.2%
Hebrew - 1.1%

Hindi - 4.2%
Hungarian - 1.1%
Italian - 2.1%
Khmer - 1.1%
Lao - 1.1%
Lithuanian - 2.1%
Mandarin - 2.1%
Persian/Farsi - 5.3%
Russian - 5.3%
Somali - 2.1%
Spanish - 1.1%
Tagalog/Pilipino - 1.1%
Tamil - 1.1%
Turkish - 3.2%
Twi - 1.1%
Ukrainian - 1.1%
Urdu - 1.1%
Vietnamese - 4.2%
Yiddish - 1.1%
Other Chinese - 7.4%
Other African - 1.1%
Other Asian (Excluding Indian and Chinese) - 1.1%
Other European - 3.2%

Third language in order of fluency, for those students able to speak at least three languages:

English - 31.3%
French - 12.5%
Fukienese - 6.3%
Greek - 6.3%
Hakka - 6.3%
Hindi - 12.5%
Swahili - 6.3%
Ukrainian - 6.3%
Other African - 6.3%
Other Indian (Asia) - 6.3%

Fourth language in order of fluency, for those students able to speak four languages:

English - 50%, or one student
Other African - 50%, or one student

How many languages are now spoken in your home?

1 - 40.6%
2 - 47.0%
3 - 11.3%
4 - 1.1%

What are these languages (now spoken in your home), in order of usage?

First language spoken in the home, in order of usage:

Arabic - 3.2%
Cantonese - 13.1%
Chiu Chow - 0.7%
English - 8.8%
Fukienese - 0.7%
German - 0.4%

Greek - 0.4%
Gujarati - 0.7%
Hebrew - 3.9%
Hindi - 1.8%
Hungarian - 1.1%
Japanese - 2.5%
Khmer - 0.4%
Korean - 3.9%
Lao - 0.7%
Latvian - 0.4%
Macedonian - 0.4%
Mandarin - 4.9%
Persian/Farsi - 10.6%
Polish - 0.7%
Punjabi - 2.8%
Romanian - 1.8%
Russian - 10.2%
Serbo-Croatian - 0.4%
Sinhalese - 0.4%
Somali - 1.4%
Spanish - 8.1%
Tagalog/Pilipino - 0.4%
Tamil - 3.2%
Thai - 0.4%
Turkish - 0.4%
Twi - 1.4%
Ukrainian - 0.7%
Urdu - 2.5%
Vietnamese - 5.3%
Other Chinese - 0.4%
Other African - 1.1%
Other Asian (Exclusing Indian and Chinese) - 0.4%

Second language spoken in the home (in homes where at least two languages are spoken), in order of usage:

Amharic - 1.2%
Cantonese - 1.2%
English - 70.7%
Gujarati - 1.8%
Hebrew - 2.4%
Hungarian - 0.6%
Italian - 0.6%
Khmer - 1.2%
Korean - 2.4%
Lao - 0.6%
Mandarin - 1.2%
Persian/Farsi - 1.8%
Polish - 0.6%
Punjabi - 4.2%
Romanian - 0.6%
Russian - 2.4%
Spanish - 1.2%
Twi - 0.6%
Urdu - 0.6%

Vietnamese - 1.8%
Other Chinese - 1.8%
Other - 0.6%

Third language spoken in the home (in homes where at least three languages are spoken), in order of usage:

Chiu Chow - 2.9%
Dari - 2.9%
English - 48.6%
French - 8.6%
Fukienese - 2.9%
Hebrew - 5.7%
Hungarian - 2.9%
Russian - 8.6%
Yiddish - 5.7%
Other Chinese - 8.6%
Other Asian (Excluding Indian and Chinese) - 2.9%

Fourth language spoken in the home (in homes where at least four languages are spoken), in order of usage:

French - 33.3%, or 1 home
Hakka - 33.3%, or 1 home
Other European - 33.3%, or 1 home

How many languages does your child now speak at a reasonable level of fluency?

1 - 4.2%
2 - 80.3%
3 - 14.4%
4 - 1.1%

What are these languages (that your child now speaks), in order of fluency?

First language child now speaks, in order of fluency:

Amharic - 0.4%
Arabic - 3.2%
Cantonese - 10.7%
English - 35.6%
German - 0.4%
Greek - 0.4%
Gujarati - 0.4%
Hebrew - 3.9%
Hungarian - 0.7%
Japanese - 2.5%
Korean - 3.2%
Lao - 0.4%
Macedonian - 0.4%
Mandarin - 4.3%
Persian/Farsi - 4.6%
Polish - 0.7%
Punjabi - 2.8%
Romanian - 1.1%
Russian - 6.8%
Somali - 1.4%
Spanish - 6.0%
Tagalog/Pilipino - 0.4%
Tamil - 2.1%

Turkish - 0.4%
Twi - 1.1%
Ukrainian - 0.7%
Urdu - 1.8%
Vietnamese - 2.8%
Other African - 0.4%
Other Indian (Asia) - 0.4%
Other - 0.4%

Second language child now speaks (for those children speaking at least two languages), in order of fluency:

Amharic - 0.4%
Cantonese - 3.0%
Chiu Chow - 0,7%
English - 59.6%
French - 1.5%
Fukienese - 0.4%
Gujarati - 0.7%
Hebrew - 2.6%
Hindi - 1.9%
Hungarian - 0.4%
Italian - 0.4%
Khmer - 1.1%
Korean - 1.9%
Lao - 0.4%
Mandarin - 1.9%
Persian/Farsi - 6.3%
Polish - 0.4%
Punjabi - 0.7%
Romanian - 1.1%
Russian - 2.6%
Serbo-Croatian - 0.4%
Sinhalese - 0.4%
Spanish - 3.0%
Tamil - 0.7%
Twi - 0.7%
Urdu - 1.1%
Vietnamese - 3.7%
Other Chinese - 1.1%
Other African - 0.4%
Other Indian (Asia) - 0.4%
Other Asian (Exclusing Indian and Chinese) - 0.4%

Third language child now speaks (for those children speaking at least three languages), in order of fluency:

Cantonese - 4.4%
Dari - 2.2%
English - 13.3%
French - 26.7%
Fukienese - 2.2%
German - 2.2%
Hebrew - 2.2%
Hungarian - 2.2%
Lao - 2.2%
Lithuanian - 2.2%

Persian/Farsi - 4.4%
Russian - 15.6%
Swahili - 2.2%
Urdu - 2.2%
Yiddish - 2.2%
Other Chinese - 4.4%
Other African - 2.2%
Other Indian (Asia) - 2.2%

Fourth language child now speaks (for those children speaking at least four languages), in order of fluency:

English - 33.3%, or one student
French - 33.3%, or one student
Other Chinese - 33.3%, or one student

How much of your child's spoken language at home is now English?

None at all - 13.4%
Very little - 33.9%
Less than half - 19.8%
About half - 15.9%
More than half - 7.8%
Quite a lot - 5.7%
All or almost all - 3.5%

Since arriving in Canada, has your child had private tutoring in English outside of school?

Yes - 8.1%
No - 91.9%

(For those students who received private tutoring in English in Canada) **For what period of time did your child receive tutoring in English outside of school?**

0 to 3 months - 22.7%
4 to 6 months - 36.4%
7 to 12 months - 13.6%
13 to 24 months - 18.2%
25 to 36 months - 4.5%
>36 months - 4.5%

(For those students who received private tutoring in English in Canada) **How many hours per week did your child receive tutoring in English outside of school?**

1 to 3 hours - 77.3%
4 to 6 hours - 13.6%
7 to 12 hours - 9.1%
13 to 15 hours - 0%
>15 hours - 0%

Are you satisfied with your child's progress in learning English?

Yes - 82%
No - 18%

(For those parents not satisfied with their children's progress in learning English) **Why are you not satisfied with your child's progress in learning English?** (an open-ended question)

Reading (including fluency and comprehension) - 13.0%
Writing - 19.6%
Grammar - 6.5%
Literacy - 2.2%

Sufficient studying and homework - 4.3%
Rate of progress - 23.9%
Trying and motivation - 13.0%
Associating too much with other native language speakers - 10.9%
Needing extra help - 6.5%

How does your child's ability for native language expression compare now to when he/she first came to Canada?

Much stronger - 1.8%
Somewhat stronger - 7.4%
About the same - 44.7%
Somewhat weaker - 35.1%
Much weaker - 10.3%
Never uses native language - 0.7%

(For those students whose ability for native language expression is not as strong as when they first came to Canada) **Why do you think your child's native language is not as strong now as when he/she came to Canada, or why is it never used?** (an open-ended question)

Less exposure to native language - 44.9%
More exposure to English (school, friends, at home) - 44.1%
Mixes up words from one language to another - 4.7%
Is losing reading and/or writing skills in native language - 4.7%
Limited attendance in native language school before Canada - 1.6%

(For those students whose ability for native language expression is not as strong as when they first came to Canada) **Have there been communication problems between your child and his/her parents as a result of your child losing native language proficiency?**

Yes - 6%
No - 94%

(For those students who have experienced communication problems with their parents as a result of losing native language proficiency) **Describe the nature of these communication problems.** (an open-ended question)

Child speaks English, parents do not - 80%
Limited native language ability - 20%

Have you now, or have you in the past, had any concerns about your child's development in his/her native language?

Yes - 18.1%
No - 81.9%

(For those parents who had concerns about their children's native language development) **What was the nature of your concern about your child's native language development?** (an open-ended question)

Losing reading and/or writing in native language - 36.4%
Losing, becoming weaker in, forgetting native language - 34.1%
Difficulty communicating with relatives - 4.5%
Maintaining native language for religious beliefs - 9.1%
Maintaining native language (general) - 15.9%

Since moving to Canada, how many schools has your child attended?

1 - 17.9%
2 - 48.2%
3 - 23.2%
4 - 6.8%

5 - 3.2%
6 - 0.7%

Since moving to Canada, has there been a period longer than one month (not including summer vacations) when your child did not attend school?

Yes - 6.4%
No - 93.6%

(For those students who did not attend school for at least one month, after moving to Canada) **For what period of time did your child not attend school while living in Canada?**

1 to 3 months - 83.3%
4 to 6 months - 16.7%
7 to 12 months - 0%
13 to 24 months - 0%
Longer than 24 months - 0%

(For those students who did not attend school for at least one month, after moving to Canada) **What was the reason for your child's absence from school?** (an open-ended question)

Physical/health problem - 28.6%
Did not have appropriate immigration papers - 35.7%
Not settled, looking for a place to live - 35.7%

Are you aware of any medical factors (such as hearing, vision, diseases, illnesses causing lengthy absences, etc.) that might have interfered with your child's learning English?

Yes - 2.8%
No - 97.2%

(For those students whose learning English might have been affected by medical factors) **What are the medical factors that might have interfered with your child's learning English?** (an open-ended question)

Facial paralysis - 20%
Eye allergy//General allergy - 20%
Speech impediment - 10%
Impaired vision - 40%
Impaired hearing - 10%

What is the highest level of schooling that your child's male parent/guardian attained? (If child had more than one male parent/guardian, choose the one who lived with child longest.)

0 to 5 years - 3.3%
6 to 8 years - 6.3%
9 years to end of high school, but high school not completed - 6.7%
High school completed - 23.4%
College or University attended, but not completed - 4.8%
College or University completed - 45.7%
Post College or University attended, but not completed - 0%
Post College or University completed - 9.7%

What is the highest level of schooling that your child's female parent/guardian attained? (If child had more than one female parent/guardian, choose the one who lived with child longest.)

0 to 5 years - 6.4%
6 to 8 years - 9.3%
9 years to end of high school, but high school not completed - 8.2%
High school completed - 34.3%
College or University attended, but not completed - 1.8%
College or Univ completed - 36.1%
Post College or University attended, but not completed - 0%
Post College or University completed - 3.9%

Can you think of any other information that might be useful in terms of understanding your child's English language development? If so, please explain. (an open-ended question)

Student good at certain aspects of English, e.g., reading, writing, speaking, spelling, vocabulary, literacy, grammar - 8.3%
Student weak at certain aspects of English, e.g., reading, writing, speaking, spelling, vocabulary, literacy, grammar - 12.5%
Parent communication with teachers, e.g., interviews, notes, report cards - 4.2%
Student likes school - 2.8%
Student likes reading activities, e.g., reading and writing - 2.8%
Student has many friends who speak English - 4.2%
Student does not have many friends who speak English - 6.9%
Student is shy - 5.6%
Parent satisfied, e.g., with school, with student progress, no concerns or problems - 16.7%
Parent trying to help student - 4.2%
Checking on students' homework is useful - 5.6%
Confusing English and other non-native foreign languages - 2.8%
Inadequate English instruction in school - parent critical of instruction - 9.7%
Student is intelligent, motivated, etc. - 2.8%
More contact with teacher needed - 1.4%
Needs extra English lessons/homework - 8.3%
Student is lazy - 1.4%

Question for the Interviewer: **Based on this telephone interview with the parent/guardian, do you have any comments that you think might be helpful in understanding this student's English language development?**

Yes - 16.3%
No - 83.7%

(For those interviewers who felt they had comments that would be helpful in understanding the student's English language development) **If Yes, please explain.** (an open-ended question)

Student spoke English well before coming to Canada - 2.6%
Student schooled extensively in English before coming to Canada - 10.3%
Progress is slow - 2.6%
Private or family tutor used - 7.7%
Parent(s) do not speak English well - 12.8%
Child exposed to more than one non-English language at home - 12.8%
Parents busy at work - do not have much time to devote to child - 2.6%
Parents separated - 2.6%
Student speaks native language at home more than English, or English not permitted to be spoken at home - 5.1%
Student separated from parents - 5.1%
Student lived in refugee camp before coming to Canada - 7.7%
Limited or no formal schooling before coming to Canada - 2.6%
Student attended private school (non-English second language) - 2.6%
Attended French school/French classes/fluency in French - 12.8%
Intelligent, talented student - 2.6%
Exposed to English in U.S. or army base, etc. - 5.1%
Slow learner - 2.6%

Parent Interview Results By LOR

The following is a summary of results for all parent interview questions (administered to the experimental group only) hypothesized to possibly be LOR sensitive. Whereas parent interview questions in the preceding part of this study were examined for the experimental group as a whole, these questions are examined for the experimental group by LOR. Questions posed in this part of the study are: (1) Do there appear to be differences among LOR groups, with respect to background information variables obtained through parent interviews? (2) Where there are differences among LOR groups, do identifiable patterns emerge, and what is the nature of these patterns?

Status in Canada (looking at such classifications as Canadian Citizen, Landed Immigrant, Minister's Permit, Refugee Claimant):

There does appear to be a difference among categories of status, with Canadian Citizen comprising 19.1% of total responses and Landed Immigrant comprising 64.0%. Within the category of Canadian Citizen, there is a pattern of progression from LOR1 to LOR7: 0%, 1.9%, 6.3%, 9.1%, 20.8%, 35.7%, and 76.0%. Within the category of Landed Immigrant, there appears to be a fairly stable pattern throughout the first five LOR periods (ranging from 62.5 % to 77.3%), and then a tapering off in the 48-59 month LOR6 period (47.6%), and another tapering off in the 60-71 month LOR7 period (24.0%). It is noted that the largest increases in the Canadian Citizen category take place during the same LOR periods as the most noticeable decreases in the Landed Immigrant category. The remaining six categories of responses (e.g., Minister's Permit, Refugee Claimant, etc.) comprise 16.9% of total responses, and due to the small numbers of students falling within these categories, it is not possible to offer observations with respect to identifiable trends.

How many languages are now spoken in your home?

40.7% of total responses were "one", and 47.0 of total responses were "two". Within the "one" category, for each of the first three LOR periods (ranging from 6-23 months) there were 50+% respondents. For LOR4, LOR5, LOR6, and LOR7, there was a noticeable decrease in responses to this question, 38.6%, 29.2%, 36.6%, and 20.0%, respectively. Within the "two" category, LOR1 through LOR6 ranged from 32.4% to 54.2%, with no particular pattern emerging. However, in the LOR7 period, there did appear to be a sizeable increase to 72.0% of respondents.

This question may be compared to the question of how many languages were spoken at home prior to coming to Canada. When the prior to Canada question was posed, 67.5% responded "one", and 26.4% responded "two". Single-language homes appear to decrease to approximately 20% over a six-year period; and two-language homes appear to increase to approximately 72% over a six-year period.

What are these languages (now spoken in your home), **in order of usage?**

8.6% of total respondents offered English as their first language of usage, and 70.3% of total respondents offered English as their second language of usage (in homes where more than one language was spoken). For those responding with English as their first language of usage, there was a progressive increase from LOR1 to LOR7: 0%, 1.9%, 2.9%, 6.8%, 10.4%, 16.7%, and 24.0% respectively. For those responding with English as their second language of usage, there were 54.5% of respondents in LOR1. After LOR1 there was a decreasing trend from LOR2 through LOR7: 83.3%, 75.0%, 74.1%, 73.5%, 63.0%, and 57.9%, respectively.

This question may be compared to the question of what were the languages spoken at home, in order of usage, prior to coming to Canada. Before coming to Canada, 1.9% of respondents offered English as their first language of usage, and 27.3% offered English as their second language of

usage (in homes where more than one language was spoken). Consequently, English as first language usage seemed to increase from less than 2% to approximately 24% over a six year period; and English as second language usage seemed to increase from approximately 27% to approximately 58% over a similar period of time.

It is not possible to offer observations about respondents from homes where three and four languages were spoken, due to insufficient numbers.

How many languages does your child now speak at a reasonable level of fluency?

Of total respondents, 4.1% answered "one", 79.9% answered "two", 14.9% answered "three", and 1.1% answered "four". In the "one" and "four" categories, there were insufficient numbers to observe LOR trends. In the "two" and "three" categories, no specific LOR trends were identified.

This question may be compared to the question of how many languages was your child able to speak fluently, prior to coming to Canada. Pre-Canada, 65.9% spoke one language fluently, 28.1% spoke two languages fluently, 5.2% spoke three languages fluently, and 0.7% spoke four languages fluently. One can readily see the dramatic decrease in one-language fluent speakers (65.9% to 4.1%) and the dramatic increase in two-language fluent speakers (28.1% to 79.9%), as reported by parents/guardians. However, based on available data, it was not possible to identify LOR patterns pertaining to these changes.

What are these languages (that your child now speaks), **in order of fluency?**

35.7% of total respondents cited English as their child's first language of fluency, and 59.4% of total respondents cited English as their child's second language of fluency (in situations where more than one language was spoken). For those responding with English as their child's first language of fluency, there was a progressive increase from LOR1 to LOR7 (with the exception of LOR3): 12.5%,16.0%, 8.8%, 34.9%, 47.9%, 59.5%, and 72.0% respectively. For those responding with English as their child's second language of fluency, there was a slight increasing trend from LOR1 through LOR3 (72.7%, 78.3%, and 84.8%, respectively); and then there was a noticeable decreasing trend from LOR3 through LOR7. From LOR3 through LOR7, figures obtained were 84.8%, 61.0%, 51.1%, 38.1%, and 28.0%, respectively.

This question may be compared to the question of what languages students spoke fluently, prior to coming to Canada. Before coming to Canada, 3.0% of respondents cited English as their child's first language of fluency, and 27.2% cited English as their child's second language of fluency (in situations where more than one language was spoken). Consequently, English as first language fluency seemed to increase from 3% of students, prior to moving to Canada, to 72% after living in Canada for six years. Where English was students' second language of fluency, it jumped from approximately 27% pre-Canada, to approximately 73% during LOR1, gradually increasing to approximately 85% during LOR3, and gradually decreasing to approximately 28% during LOR7.

How much of your child's spoken language at home is now English?

The responses occurring with the least frequency were in those categories suggesting that spoken language at home was more than half English. These categories included "More than half", "Quite a lot", and "All or almost all". Across all LOR's combined, these categories totalled only 16.1%, and there were no discernible trends among different LOR periods.

Responses occurring with greatest frequency (totalling approximately 84%) were in those categories suggesting that spoken language at home was half or less than half English. These

categories included "About half" (15.3%), "Less than half" (20.5%), "Very little" (34.0%), and "None at all" (14.2%). When the half to less-than-half categories were combined, there was little change from LOR1 through LOR3. Approximately 91% to 94% of respondents in these LOR periods indicated that their children spoke English at home half or less than half of the time. Beginning with LOR4, however, there was a moderate, but consistent decrease in similar responses. Responses decreased from ~84% in LOR4, to ~79% in LOR5, to ~76% in LOR6, to ~68% in LOR7. This would suggest that, even after 6 years in Canada, the home language spoken by students was half or less than half English ~68% of the time.

Since arriving in Canada, has your child had private tutoring in English outside of school?

Of the 7.5% who answered "Yes" to this question, there was a slight, inconsistent decreasing trend from LOR1 through LOR7. LOR1, LOR2, and LOR3 responses were in the 11.5-12.5% range; LOR4 was at 7.0%; and LOR5, LOR6, and LOR7 responses ranged from 2.1-4.8%. These statistics must be interpreted with caution as only 20 cases were involved.

Are you satisfied with your child's progress in learning English?

Approximately 81% responded "Yes", and approximately 19% responded "No". Of those responding "Yes", there appeared to be an inconsistent increase from LOR1 (62.5%) to LOR6 (90.5%) and then a slight decrease at LOR7 (79.2%). Of those responding "No", there appeared to be no consistent pattern discernible from LOR2 through LOR7 (ranging from 9.5% to 27.3% in no particular order); however, there appeared to be a perceptibly higher percentage of parents dissatisfied with their children's progress in learning English at LOR1, which was at the 37.5% level.

Why are you not satisfied with your child's progress in learning English?

Of the 18.7% of parents who were not satisfied with their children's progress in learning English, there were insufficient numbers of responses in any LOR category to hypothesize trends.

How does your child's ability for native language expression compare now to when he/she first came to Canada?

In the extreme categories, "Much stronger" (1.9%) and "Never uses native language" (0.4%), there were insufficient numbers to suggest LOR trends. In the "Somewhat stronger" category (7.1%), there were also insufficient numbers and lack of an LOR trend. In the "About the same" category (44.9%), which was the largest category, there was an inconsistent but noticeable decreasing trend from LOR1 (66.7%) through LOR7 (28.0%). In the "Somewhat weaker" category (35.6%) there appeared to be an inconsistent increasing trend from LOR1 to LOR4 (ranging from 25.5% to 39.5%, not in order) and then a levelling out trend from LOR4 to LOR7 (ranging from 39.5% to 42.9%, not in order). In the "Much weaker" category (10.1%) there appeared to be an increasing pattern from LOR1 (0%) through LOR7 (24.0%).

Combining the above categories into two classifications, "about the same and stronger" and "weaker", the following pattern emerged. There was a general decline in the "about the same and stronger" classification from LOR1 (70.9%) to LOR7 (36%). There was a general increment in the "weaker" classification from LOR1 (29.2%) to LOR7 (64%). These findings suggest that after six years, approximately one-third of students are perceived by their parents/guardians to be about the same or stronger in their native language expression; and approximately two-thirds of students are perceived to be weaker in their native language.

Why do you think your child's native language is not as strong now as when he/she came to Canada, or why is it never used?

The two open-ended responses occurring with greatest frequency and accounting for 88.3% of all answers were "less exposure to native language" and "more exposure to English (at school, at home, with friends)". Within the "less exposure to native language" category, there appeared to be an increasing trend from LOR1 (33.3%) to LOR7 (66.7%), with an inconsistent levelling off of the intervening categories (LOR2, LOR3, LOR4, and LOR6) ~45% to ~48%. An exception to this levelling off was at LOR5, with a 30.4% response. Within the "more exposure to English" category, no perceptible LOR trends were noted.

Have there been communication problems between your child and his/her parents as a result of your child losing native language proficiency?

Due to the insufficient number of "Yes" responses (6.0%), it was not possible to identify LOR trends.

Describe the nature of these communication problems (between parent and child, resulting from child's loss of native language proficiency).

Again, due to insufficient number of responses, LOR trends were not identifiable.

Since moving to Canada, how many schools has your child attended?

For LOR1 students, 50% had attended two schools, and 4.2% had attended three schools. In the LOR2 category, 55.8% of students had attended two schools, and 7.7% had attended three schools. These findings were not totally unexpected as the bulk of students seen were in the fall of their Grade 7 year. These students would have normally experienced at least one school change due to change of panel at the Grade 6 level, for students entering middle schools, and at the Grade 7 level, for students entering junior high schools. This question was intended to assess the mobility of ESL students, but unfortunately, it proved to be of little value for two main reasons: (1) Normal panel changes at Grades 6 and 7 occurred for only some students, as there were combination elementary-middle schools in which students did not change panels at all; and (2) Comparative data was not available for the control group.

Multiple Regression Analysis - Background Variables Influencing Test Scores

In this part of the investigation an attempt was made to determine which background variables, as derived from the parent questionnaire, mainframe computer data, and MAT-SF testing, had the greatest influence on student achievement, as determined by test performance. To make such a determination, a stepwise multiple regression analysis was carried out on each of 13 separate tests (not 14, as the MAT-SF was used as a background variable), examining them in view of a variety of background variables. The 13 tests examined were:

Peabody Picture Vocabulary Test - Revised, Form L
Woodcock-Johnson Passage Comprehension
Woodcock-Johnson Writing Samples
Detroit Tests of Learning Aptitudes - 2, Word Opposites
Maculaitis Oral Expression
Maculaitis Listening Comprehension
Degrees of Reading Power, Form E
Test of Written Language - 2, Thematic Maturity
Test of Written Language - 2, Contextual Vocabulary
Test of Written Language - 2, Syntactic Maturity
Test of Written Language - 2, Contextual Spelling
Test of Written Language - 2, Contextual Style
Test of Written Language - 2, Total Score

The background variables against which the thirteen tests were examined in this part of the investigation included:

Gender (male versus female)
Primary language (Romance languages versus non-Romance languages, to determine if students from Romance language backgrounds enjoyed a linguistic advantage over students from non-Romance language backgrounds. Romance languages were defined as the languages of French, Spanish, Italian, Portuguese, Catalan, and Romanian. Non-Romance languages were defined as all other languages)
Dwelling type (single detached, semi-detached, townhouse, low-rise apartments, high-rise apartments, or apartments over stores)
Matrix Analogies Test - Short Form (a measure of non-verbal reasoning/intellectual ability)
Previous schooling (amount of school experience prior to coming to Canada)
Length of residence (in Canada)
Educational level attained by female parent/guardian
Educational level attained by male parent/guardian

It is noted that there was initially an intention to examine the influence of two other variables on student achievement: exposure to English before coming to Canada and tutoring in English while in Canada. However, these variables had to be excluded from the multiple regression analysis, as their inclusion would have dramatically decreased the number of valid cases with which to work. Results of the multiple regression analysis are described below:

<u>Peabody Picture Vocabulary Test - Revised, Form L</u>

Two background variables were found to have significant influence on PPVT-R results: educational level of the female parent/guardian and primary language (with students from Romance language backgrounds outperforming students from non-Romance language backgrounds). When all other variables were removed from the equation, educational level of the female parent/guardian was at the .0027 level of significance, and primary language was at the .0080 level of significance. Educational level of the female parent/guardian accounted for

approximately 20.0% of the variance, and primary language accounted for approximately 18.6% of the variance.

Woodcock-Johnson Passage Comprehension

Not any of the background variables was found to have significant influence on the Woodcock-Johnson Passage Comprehension.

Woodcock-Johnson Writing Samples

Not any of the background variables was found to have significant influence on the Woodcock-Johnson Writing Samples.

Detroit Tests of Learning Aptitude - 2, Word Opposites

Two background variables were found to have significant influence on DTLA-2 Word Opposites results: amount of previous schooling and educational level attained by the female parent/guardian. When all other variables were removed from the equation, amount of previous schooling was at the .0201 level of significance, and educational level of the female parent/guardian was at the .0372 level of significance. Previous schooling accounted for approximately 18.9% of the variance, and educational level of the female parent/guardian accounted for approximately 12.2% of the variance.

Maculaitis Oral Expression

One background variable was found to have significant influence on Maculaitis Oral Expression results: the educational level attained by the female parent/guardian. When all other variables were removed from the equation, educational level of the female parent/guardian was at the .0304 level of significance and accounted for approximately 15.7% of the variance.

Maculaitis Listening Comprehension

Not any of the background variables was found to have significant influence on the Maculaitis Listening Comprehension.

Degrees of Reading Power

Three background variables were found to have significant influence on DRP results: MAT scores, length of residence, and educational level attained by the female parent/guardian. When all other variables were removed from the equation, MAT scores were at the .0025 level of significance, length of residence was at the .0006 level of significance, and educational level of the female parent/guardian was at the .0032 level of significance. MAT scores accounted for approximately 7.5% of the variance, length of residence accounted for approximately 6.1% of the variance, and educational level of the female parent/guardian accounted for approximately 4.7% of the variance.

Test of Written Language - 2, Thematic Maturity

Not any of the background variables was found to have significant influence on the TOWL-2 Thematic Maturity subtest.

Test of Written Language - 2, Contextual Vocabulary

Not any of the background variables was found to have significant influence on the TOWL-2 Contextual Vocabulary subtest.

Test of Written Language - 2, Syntactic Maturity

One background variable was found to have significant influence on TOWL-2 Syntactic Maturity results: gender (with females outperforming males). When all other variables were removed from the equation, gender was at the .0442 level of significance and accounted for approximately 13.7% of the variance.

Test of Written Language - 2, Contextual Spelling

One background variable was found to have significant influence on TOWL-2 Contextual Spelling results: gender (with females outperforming males). When all other variables were removed from the equation, gender was at the .0473 level of significance and accounted for approximately 13.3% of the variance.

Test of Written Language - 2, Contextual Style

One background variable was found to have significant influence on TOWL-2 Contextual Style results: performance on the MAT-SF. When all other variables were removed from the equation, MAT-SF performance was at the .0057 level of significance and accounted for approximately 24.2% of the variance.

Test of Written Language - 2, Total Score

One background variable was found to have significant influence on TOWL-2 Total Score results: gender (with females outperforming males). When all other variables were removed from the equation, gender was at the .0309 level of significance and accounted for approximately 15.6% of the variance.

DISCUSSION

Test Results by Length of Residence

A primary objective of this investigation was to determine the feasibility of developing test criteria for ESL students based on their age and length of residence in their new country. In order for a test to be deemed effective in discriminating among LOR levels, it had to meet two criteria. It had to show that a significant difference existed between the LOR mean scores, and that these mean scores increased in a significant linear fashion from shortest LOR to longest LOR. Analysis of variance was employed in making these determinations. Of the 14 tests utilized in this study, 9 tests met these criteria and 5 tests did not. The tests meeting the criteria were the PPVT-R, DTLA-2WO, MAC-ORX, MAC-LC, DRP, TOWL-2TM, TOWL-2CV, TOWL-2SM, and TOWL-2Tot. By virtue of meeting these criteria, and judging from the manner in which test scores were distributed across the various test score ranges, it is asserted that one could assess aspects of academic and linguistic development in 12 year old ESL students, based on their LOR, if testing instruments were selected judiciously. Furthermore, one would have the opportunity of rating such development against three possible comparison groups: (1) other ESL students of similar age and similar LOR; (2) Canadian-born, English-speaking 12 year olds, whose performance was established by published test norms; (3) Canadian-born, English-speaking 12 year olds, whose performance was established by the control group in this study. It should be borne in mind that the foregoing conclusion is tentative, as it is based on the performance of the limited sample of students participating in this study.

Tests Found to Discriminate Effectively Among Different LOR Levels

The PPVT-R was administered only to groups LOR1 through LOR3, plus controls. It was of interest to note that, on this measure of receptive vocabulary, LOR1, LOR2, and LOR3 students earned mean scores (based on PPVT-R norms) equivalent to the ages of 4 years/6 months, 5 years/0 months, and 5 years/4 months, respectively. These findings suggest that, even after two years in their new country, ESL students likely have significant gaps in their knowledge of English words, despite appearing to exhibit native-like, everyday conversation on the surface. The control group earned a mean score of 12 years/3 months on the PPVT-R; and it is unfortunate that resources were not available in this study to extend the data to ESL students with longer LOR's, to determine the course of their receptive vocabulary development and the length of time it would take to approach the control group's scores on this measure.

The DTLA-2WO was administered to groups LOR1 through LOR7, plus controls. For ESL students, scores ranged from the 5th percentile (applying DTLA-2 norms for 12 1/2 year olds) at the LOR1 level to the 16th percentile at the LOR7 level. This suggests that, even after six years in the country, ESL students, as a group, manifest a significant gap in their ability to master the highly complex vocabulary task of providing word opposites. The control group, which scored at the 63rd percentile (applying DTLA-2 norms), performed vastly superior to the ESL students, even those who had been in Canada up to 6 years.

The MAC-ORX was administered to groups LOR1 through LOR7, plus controls. Since the Maculaitis does not provide norms for non-ESL students, comparisons could not be made to native speakers of English on this basis. However, comparisons could be made to the control group, whose mean raw score was 71.2. ESL mean raw scores ranged from 46.9 in the lowest scoring LOR group to 65.7 in the highest scoring LOR group. These scores represent less than the 10th percentile in the former case and slightly more than the 10th percentile in the latter case, when compared to control group performance. Based on this evidence, there is a strong suggestion that oral expressive abilities still lag significantly behind native speakers of English, even after ESL students have been in Canada up to six years.

The MAC-LC was administered to groups LOR1 through LOR7, plus controls. As stated above, the Maculaitis does not provide norms for non-ESL students, and therefore, comparisons could not be made to native speakers of English on this basis. However, comparisons could again be made to the control group, whose mean raw score was 21.7. ESL mean raw scores ranged from 16.1 in the lowest scoring LOR group to 20.5 in the highest scoring LOR group. These scores represent less than the 10th percentile in the former case and slightly less than the 30th percentile in the latter case, when compared to control group performance. Based on this evidence, there is a suggestion that listening comprehension abilities still lag noticeably behind native speakers of English, even after ESL students have been in Canada for up to six years.

The DRP was administered to groups LOR3 through LOR7, plus controls. ESL mean raw scores ranged from 18.1 in the lowest scoring LOR group to 30.7 in the highest scoring LOR group. When compared to published DRP test norms, these scores represent the 6th percentile in the former case and the 21st percentile in the latter case. It is of interest to note that the control group earned a mean score of 37.5 on the DRP, which translates into the 37th percentile on published test norms. When ESL scores are compared to control group scores (as opposed to published test norms), they appear consistent with published norms, in that they range from less than the 10th percentile to less than the 30th percentile. Based on this evidence, there is a suggestion that ESL reading comprehension abilities still lag noticeably behind native speakers of English, even after ESL students have been in Canada for up to six years.

The TOWL-2TM was administered to groups LOR3 through LOR7, plus controls. ESL mean raw scores ranged from 4.26 in the lowest scoring LOR group to 6.21 in the highest scoring LOR group. When compared to published TOWL-2 test norms, these scores represent the 11th percentile in the former case and the 40th percentile in the latter case. It is of interest to note that the control group earned a mean score of 6.79 on the TOWL-2TM, which translates into the 47th percentile on published test norms. When ESL scores are compared to control group scores (as opposed to published test norms), they appear consistent with published norms, in that they range from less than the 20th percentile to slightly more than the 40th percentile. Based on this evidence, there is a suggestion that the ESL ability to communicate content effectively in writing still lags somewhat behind native speakers of English, even after ESL students have been in Canada up to six years.

The TOWL-2CV was administered to groups LOR3 through LOR7, plus controls. ESL mean raw scores ranged from 6.82 in the lowest scoring LOR group to 10.58 in the highest scoring LOR group. When compared to published TOWL-2 test norms, these scores represent the 23rd percentile in the former case and the 44th percentile in the latter case. It is of interest to note that the control group earned a mean score of 11.6 on the TOWL-2CV, which translates into the 50th percentile on published test norms. When ESL scores are compared to control group scores, they appear consistent with published norms, in that they range from slightly less than the 20th percentile to approximately the 45th percentile. Based on this evidence, there is a suggestion that ESL students' vocabulary usage in writing (based on use of words consisting of seven or more letters) lags only slightly behind native speakers of English, after ESL students have been in Canada for up to six years.

The TOWL-2SM was administered to groups LOR3 through LOR7, plus controls. ESL mean raw scores ranged from 57.15 in the lowest scoring LOR group to 107.18 in the highest scoring LOR group. When compared to published TOWL-2 test norms, these scores represent the 16th percentile in the former case and the 50th percentile in the latter case. It is of interest to note that the control group earned a mean score of 121.79 on the TOWL-2SM, which translates into the 50th percentile on published test norms. When ESL scores are compared to control group scores (as opposed to published test norms), they appear consistent with published norms, in that they range from less than the 20th percentile to approximately the 35th percentile. Based on this evidence, there is a suggestion that ESL students' ability to use appropriate grammar in writing lags only slightly behind native speakers of English, after ESL students have been in Canada up to six years.

The TOWL-2Tot was derived from the five TOWL-2 subtests administered to groups LOR3 through LOR7 and to the control group. ESL standard score means ranged from 37.53 in the lowest scoring LOR group to 45.8 in the highest scoring LOR group. When compared to published TOWL-2 test norms, these scores represent a Quotient of 82 in the former case and a Quotient of 94 in the latter case. It is of interest to note that the control group earned a mean score of 48.76 on the TOWL-2Tot, which translates into a Quotient of 98 on published test norms. When ESL scores are compared to control group scores, they range from less than the 20th percentile to slightly less than the 40th percentile. Based on this evidence, there is a suggestion that overall ESL writing skills lag slightly behind native speakers of English, even after ESL students have been in Canada for up to six years.

Tests Found Not to Discriminate Effectively Among Different LOR Levels

The tests which did not meet criteria in discriminating effectively among LOR levels were the MAT-SF, TOWL-2CSp, TOWL-2CSt, WJ-PC, and WJ-WS.

It is not unexpected that the MAT-SF fell into this category, as it is a test of visual reasoning capability and would seem to be largely independent of second language acquisition and/or length of residence in a new country.

One reason why the TOWL-2CSp and TOWL-2CSt subtests failed to discriminate effectively among different LOR levels may be explained by the nature of the tests themselves. The TOWL-2CSp scores are based on the number of different words spelled correctly in a spontaneously written passage. Consequently, if a student writes a lengthy passage and correctly uses easy-to-spell words, he/she would earn the same TOWL-2CSp score as a student who writes a passage of equal length and correctly uses difficult-to-spell words. The TOWL-2CSp, therefore, is not a test of actual spelling ability for random words, and it is speculated that if a more traditional spelling test of random words were administered, the results would likely show a more linear association with increased LOR.

The TOWL-2CSt scores are based on weighted credit awarded for a variety of punctuation and capitalization rules applied correctly in a spontaneously written passage. Consequently, if a student opts to write in a simple, straightforward manner and not use many proper nouns (for capitalization) or varieties of punctuation, that student would be penalized on this subtest for his/her style. It is suspected that many ESL students opt to write in such a simplified manner, as their mental energies expended on writing are directed more to language and content than to mechanics -- and given that the range of obtainable scores on this subtest is narrow, the TOWL-2CSt does not appear to be a good discriminator among different LOR groups.

One further speculation as to why the TOWL-2CSp and TOWL-2CSt subtests did not significantly discriminate among various LOR groups pertains to a general observation of the LOR5 and LOR7 groups. The LOR5 group tended to perform better than expected on a number of tests and may have been a "somewhat superior" group. In contrast, the LOR7 group tended to perform not as well as expected on a number of tests, and may have been a "somewhat inferior" group. This superiority and inferiority tended to interfere with the increasing linearity of performance of the various LOR groups on certain tests; and if the numbers of subjects were larger, it is possible that these aberrations would have smoothed out and that the TOWL-2CSp and TOWL-2CSt would have shown greater discriminatory power among the different LOR groups.

Why the WJ-PC and WJ-WS subtests failed to discriminate among LOR groups is difficult to explain. One speculation pertains to the fact that these tests were only administered to 3 LOR groups: LOR1, LOR2, and LOR3 -- and given the limited number of groups, the limited number of subjects in LOR1 and LOR3, and the observation that LOR3 tended to be a somewhat low scoring group generally, factors may have conspired against there being a significant linear increase across LOR levels. It is possible that, with larger numbers of subjects, WJ-PC and WJ-WS

findings may have also shown a linear increase in scores with increased LOR.

Teacher Rating Scale Results by Length of Residence

Comparisons to Native-born Canadians

When teachers were asked to compare seven LOR groups and the control group to a hypothetical group of native-born Canadians (on the variables of speaking, listening, reading, and writing), three main questions were posed: (1) Were there significant differences in mean teacher ratings among the eight groups? (2) If there were significant differences, was there a significant linear increase in mean teacher ratings from LOR1 through LOR7 through the control group? (3) During which LOR period, if any, did students appear to "catch up" to native-born Canadians in speaking, listening, reading, and writing?

For all four variables of speaking, listening, reading, and writing, when compared to native-born Canadians, there were significant differences among the eight groups (LOR1 through LOR7 plus the control group) rated by teachers. Furthermore, these ratings appeared to increase significantly in a linear fashion from LOR1 through LOR7 through the control group.

The Teacher Rating Scale employed ratings ranging from 1 (low) to 7 (high), with 4 symbolizing average and representing 26%-75% of the population. Consequently, when teachers were asked to compare students in this study to native-born Canadians, ratings lower than 4 were indicative of students who had not yet reached the average of native-born Canadians -- and when a rating of 4 was attained, it could be interpreted as having reached the average level of native-born Canadians. In the areas of speaking, listening, and reading, students first achieved a mean rating of 4 in the LOR4 group, suggesting that it takes ESL students 24 to 35 months to approach native-born Canadian norms in these areas. However, teacher ratings in speaking, listening, and reading appear inconsistent with actual test results. Whereas teacher ratings suggest that ESL students attain the hypothetical mean of their English-speaking counterparts after being in their new country 24-35 months, test results suggest that ESL students fail to achieve comparability even after 60-71 months. It is speculated that teacher judgments of speaking and listening are influenced more by their perception of everyday, surface communication skills (BICS in Cummins' model) than by the more cognitive aspects of speaking and listening (CALP in Cummins' model) as tapped by tests in this study. With respect to the tendency of teachers to over-rate reading comprehension in ESL students, it is further speculated that teachers are once again strongly influenced by everyday, surface communication skills -- which are more readily observable and available to teachers than actual assessment of reading comprehension.

In the area of writing, students first achieved a mean teacher rating of 4 in the LOR7 group, suggesting that it takes students 60 to 71 months to approach native-born Canadian norms in written expression. While this finding is consistent with the concept of CALP in Cummins' model (which suggests that cognitively demanding functions, such as school tasks, take approximately five to seven years to develop in ESL students), it is somewhat discrepant from current test results, which suggest that, even after 60-71 months, ESL students do not achieve comparability with their Canadian-born counterparts. It is noted that teacher ratings of writing more closely approximate actual test results than teacher ratings of speaking, listening, and reading -- and it is hypothesized that teachers are able to assess written language more accurately because writing is concrete and observable and lends itself to closer scrutiny of its cognitively demanding elements.

It is interesting to note that teachers tended to rate the native-born Canadian control students, as a group, slightly higher than middle average. Their mean ratings ranged from 4.49 (for writing) to 4.88 (for speaking). If ESL students were compared to the control group, as opposed to a hypothetical average rating of 4, not any of the LOR groups (even after 6 years) would have attained the control group rating in any of the four areas measured.

Comparisons to ESL Students of Similar Age and LOR

When teachers were asked to compare students in the seven LOR groups to a hypothetical group of other ESL students of similar age and similar LOR (on the variables of speaking, listening, reading, writing, and extent of special support received), three main questions were posed: (1) Were there significant differences in mean teacher ratings among the seven LOR groups? (2) If there were significant differences, was there a significant linear association in mean teacher ratings from LOR1 through LOR7? (3) Were there any observable trends in the way teachers rated ESL students, in terms of their LOR?

For the four variables of speaking, listening, reading, and writing, there were no significant differences found among the seven LOR groups rated. Such a finding is not unexpected, as experimental subjects were compared to other ESL students of similar age and similar LOR, and one might anticipate near average means for all four variables at all seven LOR levels.

An interesting observation resulting from this set of 28 ratings (4 ratings for each of 7 LOR groups) was that teachers tended to rate experimental group ESL students higher than average at each LOR level, on all four variables. Whereas there was an anticipated rating of 4, a middle average score representing 26%-75% of the population, ratings ranged from a low of 4.35 to a high of 5.28 (where a rating of 5 represented 76%-85% of the population). As to why teachers tended to assign above average ratings to ESL students in general, two hypotheses are offered: (1) teachers are generous in their educational perceptions of ESL students, tending to judge their efforts in a positive light and to give them the benefit of the doubt; and (2) teachers have not developed sufficient empirical or intuitive "norms" for ESL student achievement, based on the age and length of residence of those students.

In addition to the teachers' general tendency to rate experimental group ESL students higher than average, in the areas of speaking and listening there was a further tendency for teachers to rate students in the LOR4 through LOR7 categories consistently higher than students in the LOR1 through LOR3 categories. One possible explanation for this finding is that, although teachers tend to over-rate all ESL students, they may tend to perceive the progress of students who have not acquired native-like, everyday oral communication skills (those in the LOR1-LOR3 categories, who have been in the country less than two years) in a less favorable light than students who have acquired native-like, everyday oral communication skills (those in the LOR4-LOR7 categories, who have been in the country longer than two years).

With respect to teachers' ratings of extent of special support (hours per week of assistance provided outside of normal classroom time) received by experimental group ESL students, findings were not unexpected. There was a significant difference in mean hours among the seven LOR groups, and there was a negative but significant linear progression from LOR1 (mean of 5.09 hours per week) through LOR7 (mean of 1.22 hours per week). It was observed that the largest decline in mean hours of special support occurred between the LOR3 and LOR4 periods. Again, it is speculated that when ESL students acquire observable, native-like, everyday communication skills, they are perceived as higher functioning in the eyes of their teachers and less in need of extra support.

Correlation of Test Scores With Teacher Rating Scale Results

For Experimental and Control Groups Combined

When test scores (fourteen maximum) and teacher ratings (nine maximum) were correlated for experimental and control group subjects combined, highly significant correlations were obtained for all possible combinations. These high correlations attested to the validity of test results, teacher ratings, and general methodology employed in this investigation.

For the Control Group

For the control group (Canadian-born, native speakers of English) alone, correlations between test scores and teacher ratings varied, depending on the test administered and the variable rated. In terms of the twelve test scores obtained from this group, the DRP showed the greatest number of significant correlations with teacher ratings, four out of four, while the PPVT-R showed the next highest number of significant correlations, three out of four. The MAC-ORX and MAC-LC each showed two out of four significant correlations, while the DTLA-2WO, MAT-SF, and TOWL-2 (all six TOWL-2 scores, including five subtest scores and one overall score) showed no significant correlations. (The WJ-PC and WJ-WS were not administered to the control group.) In terms of the variables rated by teachers, speaking, listening, and reading, correlated significantly with three of the twelve test scores obtained from the control group, while the variable of writing correlated significantly with two of the twelve test scores.

If one were to generalize about the above findings, one might say that objective tests of reading comprehension and receptive vocabulary tend to coincide with teacher ratings of speaking, listening, and reading -- and an objective test of reading comprehension further coincides with teacher ratings of writing. One might additionally generalize that objective tests of visual reasoning, spontaneous writing, and verbal concept formation tend not to coincide with teacher ratings of speaking, listening, reading, or writing. One explanation for the lack of correlation between visual reasoning and the four teacher rated variables may be that the four teacher rated variables are all verbally loaded, while visual reasoning is not. A possible explanation for the lack of correlation between spontaneous writing and the four teacher rated variables may be the manner in which the Spontaneous Writing section of the TOWL-2 is scored. Scores on this section of the TOWL-2 tend to be heavily influenced by productivity and simplification (avoidance of errors), factors perhaps not consciously noted by teachers. Consequently, teacher judgments of academic and linguistic success may have little in common with the factors responsible for success on the TOWL-2, particularly as these factors pertain to native-born, English speaking students.

It is difficult to discern why the DTLA-2WO did not correlate with teacher ratings, as on the surface it would appear to be a verbally loaded test and a reasonable predictor of the four variables rated by teachers.

It is of interest to note that the MAC-LC and MAC-ORX, which were not developed for native speakers of English, each correlated significantly with two teacher ratings. The MAC-LC correlated significantly with the variables of speaking and listening, and the MAC-ORX correlated significantly with the variables of reading and writing.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves (e.g., when teacher ratings of reading comprehension were correlated with scores on a test of reading comprehension), two out of a possible four correlations were significant for the control group: Teacher ratings of listening correlated significantly with scores on the MAC-LC, and teacher ratings of reading comprehension correlated significantly with scores on the DRP. No significant correlations were obtained for teacher ratings of speaking and writing.

For the Experimental Group, All LOR Groups Combined

All fourteen tests had extremely high correlations with all nine teacher ratings. This finding is of interest in view of the fewer significant correlations obtained for the control group, described above; and it may suggest that teachers, in general, are more adept at assessing the characteristics of speaking, listening, reading, and writing of ESL students than they are at assessing those same characteristics for Canadian-born, native speakers of English.

For the Experimental Group, LOR1, in Canada 6 through 11 months

Of the seven tests administered to this group, six tests correlated significantly with all nine teacher rating variables. This finding suggests that teachers are adept at rating LOR1 students, both in comparison to other ESL students and to Canadian-born, native speakers of English. The one test which correlated significantly with only two of the nine teacher ratings was the MAT-SF, the visual reasoning test with little verbal loading and therefore not as good a predictor of success in verbally related areas.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves (e.g., when teacher ratings of reading comprehension were correlated with scores on a test of reading comprehension), eight out of a possible eight correlations were significant for the LOR1 group. When comparing LOR1 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading comprehension ratings correlated significantly with the WJ-PC, and writing ratings correlated significantly with the WJ-WS. When comparing LOR1 students to ESL students of similar age and LOR, the same four significant correlations held true.

For the Experimental Group, LOR2, in Canada 12 through 17 months

Of the seven tests administered to this group, six tests correlated significantly with all nine teacher rating variables; and the seventh test, the MAT-SF, correlated significantly with seven of nine teacher ratings. This finding suggests that teachers are adept at rating LOR2 students, both in comparison to other ESL students and to Canadian-born, native speakers of English. Again, the one test which did not correlate significantly with all nine teacher ratings was the MAT-SF, the visual reasoning test with little verbal loading and therefore not as good a predictor of success in verbally related areas.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, eight out of a possible eight correlations were significant for the LOR2 group. When comparing LOR2 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading comprehension ratings correlated significantly with the WJ-PC, and writing ratings correlated significantly with the WJ-WS. When comparing LOR2 students to ESL students of similar age and LOR, the same four significant correlations held true.

For the Experimental Group, LOR3, in Canada 18 through 23 months

Of the fourteen tests administered to this group, four tests correlated significantly with at least six out of the nine teacher rating variables: MAT-SF, TOWL-2TM, TOWL-2CV, and TOWL-2CSt. Three tests correlated significantly with four or five teacher rating variables: MAC-LC, DRP, and TOWL-2CSp . Seven tests correlated significantly with only three or fewer teacher rating variables: PPVT-R, WJ-PC, WJ-WS, DTLA-2, MAC-ORX, TOWL-2SM, and TOWL-2Tot. These findings suggest that, for students in Canada 18 to 23 months, teachers may be less adept at rating them than their LOR1 and LOR2 counterparts. Test scores in non-verbal reasoning and aspects of spontaneous writing appear to be more aligned with teacher ratings at LOR3 than other measures used in this investigation.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, four out of a possible twelve correlations were significant for the LOR3 group. When comparing LOR3 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, and writing ratings correlated significantly with the TOWL-2Tot. Writing ratings did not correlate significantly

with the WJ-WS, listening ratings did not correlate significantly with the MAC-LC, and reading ratings did not correlate significantly with either the WJ-PC or the DRP. When comparing LOR3 students to ESL students of similar age and LOR, listening ratings correlated significantly with the MAC-LC, and writing ratings correlated significantly with the TOWL-2Tot. Speaking did not correlate significantly with the MAC-ORX, reading did not correlate significantly with either the WJ-PC or the DRP, and writing did not correlate significantly with the WJ-WS.

For the Experimental Group, LOR4, in Canada 24 through 35 months

Of the eleven tests administered to this group, six tests correlated significantly with at least six out of the nine teacher rating variables: DTLA-2WO, MAC-ORX, MAC-LC, DRP, TOWL-2CV, and TOWL-2Tot. Three tests correlated significantly with four or five teacher rating variables: TOWL-2TM, TOWL-2SM, and TOWL-2CSt. Two tests correlated significantly with only three or fewer teacher rating variables: MAT-SF and TOWL-2CSp. These findings suggest that, for students in Canada 24 to 35 months, teachers may be more adept at rating them than their LOR3 counterparts, but perhaps not quite as adept at rating them as LOR1 and LOR2 students. Test scores in oral expression, listening, reading comprehension, and aspects of spontaneous writing appear to be more aligned with teacher ratings at LOR4 than other measures used in this investigation.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, seven out of a possible eight correlations were significant for the LOR4 group. When comparing LOR4 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot. When comparing LOR4 students to ESL students of similar age and LOR, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, and writing ratings correlated significantly with the TOWL-2Tot. Teacher ratings of reading did not correlate significantly with the DRP.

For the Experimental Group, LOR5, in Canada 36 through 47 months

Of the eleven tests administered to this group, eight tests correlated significantly with at least six out of the nine teacher rating variables: DTLA-2WO, MAC-ORX, DRP, TOWL-2CV, TOWL-2SM, TOWL-2CSp, TOWL-2CSt, and TOWL-2Tot. Two tests correlated significantly with five teacher rating variables: MAC-LC and TOWL-2TM. Only one test correlated significantly with three or fewer teacher rating variables: MAT-SF. These findings suggest that, for students in Canada 36 to 47 months, teachers may be more adept at rating them than their LOR3 and, to a lesser extent, their LOR4 counterparts. However, even though teachers appear to be adept at rating students at the LOR5 level, they still appear slightly less proficient than in their ratings of LOR1 and LOR2 students. Test scores in oral expression, reading comprehension, and aspects of spontaneous writing appear to be more aligned with teacher ratings at LOR5 than other measures used in this investigation.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, seven out of a possible eight correlations were significant for the LOR5 group. When comparing LOR5 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the

TOWL-2Tot. When comparing LOR5 students to ESL students of similar age and LOR, speaking ratings correlated significantly with the MAC-ORX, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot. Teacher ratings of listening did not correlate significantly with the MAC-LC.

BEST COPY AVAILABLE

For the Experimental Group, LOR6, in Canada 48 through 59 months

Of the eleven tests administered to this group, eight tests correlated significantly with at least six out of the nine teacher rating variables: DTLA-2WO, MAC-ORX, MAC-LC, DRP, TOWL-2CV, TOWL-2CSp, TOWL-2CSt, and TOWL-2Tot. The remaining three tests correlated significantly with only three or fewer teacher rating variables: MAT-SF, TOWL-2TM, and TOWL-2SM. These findings suggest that, for students in Canada 48 to 59 months, teachers may be more adept at rating them than their LOR3 and, to a lesser extent, their LOR4 counterparts. Teachers appear to be about as equally adept at rating them as LOR5 students. However, even though teachers appear to be adept at rating students at the LOR6 level, they still appear slightly less proficient than in their ratings of LOR1 and LOR2 students. Test scores in oral expression, listening, reading comprehension, and aspects of spontaneous writing appear to be more aligned with teacher ratings at LOR6 than other measures used in this investigation.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, eight out of a possible eight correlations were significant for the LOR6 group. When comparing LOR6 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot. When comparing LOR6 students to ESL students of similar age and LOR, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot.

For the Experimental Group, LOR7, in Canada 60 through 71 months

Of the eleven tests administered to this group, nine tests correlated significantly with at least six out of the nine teacher rating variables: DTLA-2WO, MAC-ORX, MAT-SF, MAC-LC, DRP, TOWL-2TM, TOWL-2SM, TOWL-2CSp, and TOWL-2Tot. The remaining two tests correlated significantly with four or five teacher rating variables: TOWL-2CV and TOWL-2CSt. These findings suggest that, for students in Canada 60 to 71 months, teachers may be more adept at rating them than their LOR3 and, to a lesser extent, their LOR4 counterparts. Teachers appear to be about equally adept, or perhaps slightly better at rating them in comparison to LOR5 and LOR6 students. However, even though teachers appear to be adept at rating students at the LOR7 level, they still appear slightly less proficient than in their ratings of LOR1 and LOR2 students. Test scores in oral expression, listening, reading comprehension, non-verbal reasoning, and aspects of spontaneous writing appear to be aligned with teacher ratings at the LOR7 level.

When teacher ratings were correlated only with the test(s) purported to measure the same area of functioning as the ratings themselves, eight out of a possible eight correlations were significant for the LOR7 group. When comparing LOR7 students to Canadian-born, English-speaking students, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot. When comparing LOR7 students to ESL students of similar age and LOR, speaking ratings correlated significantly with the MAC-ORX, listening ratings correlated significantly with the MAC-LC, reading ratings correlated significantly with the DRP, and writing ratings correlated significantly with the TOWL-2Tot.

An Overall Impression of Correlations Between Test Scores and Teacher Ratings

When ESL students are rated by teachers (comparing them to both ESL and native-born Canadian students) on the variables of speaking, listening, reading, writing, and amount of special support

received, these teacher ratings reflect the highest and most consistent correlations with test scores (on the fourteen tests administered in this study) at LOR1 and LOR2. Strong, consistent correlations also occur at LOR5, LOR6, and LOR7, but less consistently high correlations occur at LOR3 and LOR4. One possible explanation for this weakening of correlation at the LOR3 and LOR4 levels may be that teachers are able to rate students most proficiently in the beginning stages of their English language acquisition (when development is rapid and gains are more visible) and in the later stages of their English language acquisition (as the students more closely approximate the norm of native-born speakers of English). In the beginning stages of English language acquisition, students make the greatest gains in their new language development (Walberg et al, 1978), and the extent of these gains tends to diminish with time. Consequently, teachers are able to discriminate more effectively at early stages of development, since expected gains are significant and rapid, and deviations from this growth pattern are more readily discernible. However, as the rate of growth slows down in LOR3 and LOR4 (from 18 to 36 months), and as most students approach native speakers' norms in basic interpersonal communications skills (Cummins, 1980), observable criteria for teacher ratings become less well defined, and the task of evaluation becomes more challenging. In the LOR5, LOR6, and LOR7 categories (from 36 to 71 months), when teacher ratings tend once again to become more consistent with test results, it is suspected that teachers' internalized rating criteria for native-born speakers of English take over. That is, ESL student achievement is begun to be perceived more in the light of native-born Canadians and is judged accordingly -- and since teachers' internalized criteria for evaluating native-born Canadians would seem to be well entrenched, based on teacher training and experience, proficiency in rating ESL students tends to increase during the later LOR stages.

Implications for teachers being variably adept at rating ESL student progress at different LOR stages may have implications for early identification of ESL students with special needs. Currently, there would appear to be a trend of delaying identification as long as possible, giving ESL students the benefit of the doubt where special needs are concerned. Results of this study suggest that, perhaps, the best times for teachers to rate ESL students are between 6 and 18 months and after 36 months. Waiting 36 months may be too late, in terms of intervention, so consequently, early intervention would be preferable. This study only addresses ESL students who have lived in their new country for 6 months or longer. It is possible that teachers might also be proficient at rating ESL students who have been in their new country for a period of less than 6 months -- and identification at this LOR stage would seem to be even more crucial than identification during the 6 to 18 month LOR period.

When one examines teacher ratings of ESL students in relation to only test(s) purported to measure the same area of functioning as the ratings themselves, a similar picture emerges to the one portrayed above. Teachers appear quite adept at rating ESL students at the LOR1, LOR2, LOR6, and LOR7 levels (whether comparing them to native-born, English-speaking students or to other ESL students), with all correlations at these levels being significant. Strong correlations also appear at the LOR4 and LOR5 levels (with seven of eight correlations at each level being significant), but at the LOR3 level, teacher ratings tend to weaken, with only four out of a possible twelve ratings correlating significantly with corresponding tests.

It is noted that in the Walberg et al (1978) study, teachers estimated that it took students approximately 42 months to achieve the same level of reading proficiency as their English-speaking counterparts. While the Walberg estimate is somewhat higher than the estimate obtained in this study (24-35 months), both teacher ratings are disparate from the current test results, which suggest that ESL students do not achieve English-speaking norms in reading, even after 6 years in their new country. One possible explanation for this finding may be in Walberg's definition of reading, which was not clearly delineated in his study and may have been different from the definition of reading in the present study. A second explanation is that the same influences which may have adversely affected teacher ratings in this study may have also adversely affected the teacher ratings in the Walberg study.

Parent Interview Results - Overall

Only parents/guardians of ESL students were interviewed in this study, and consequently, the results reported below apply to only to the experimental group, and not to the control group.

Approximately 95% of students tested in this survey attended at least one school before moving to Canada, whereas 5% reported not attending any schools. Of those students who previously attended school, approximately 68% attended public school, approximately 22% attended private school, approximately 8% attended a missionary or government subsidized school, approximately 1% attended a language school, and approximately 1% attended school in a refugee camp. From this same group of students who previously attended school, not any attended school for less than three hours a day, and not any students attended school for more than 8 hours a day. The vast majority of students attended school between 4 and 7 hours per day, with approximately 6% of students having attended for 8 hours. Of those students attending school before moving to Canada, approximately 97% reported attending school "all or almost all the time", and approximately 1% reported attending school "more than half" or "about half the time". Only approximately 2% attended school less than half the time. To offer a broad generalization, it would appear that most students participating in this study had reasonable educational opportunity prior to moving to Canada -- however, no comment can be offered as to the quality of education to which they had access.

A number of students in this study appeared to have been exposed to English before moving to Canada. Thirteen percent attended schools where English was the main language of instruction. Twenty-two percent of students surveyed received instruction in a second language prior to moving to Canada, with approximately 58% of this group receiving instruction in English. This means that approximately 13% of the entire experimental group received English as second language instruction prior to moving to Canada. Overall, approximately 54% of students studied at least some English either at school or outside of school. Of this number, 34% studied at public school, 28% at private school, 13% at a missionary or government subsidized school, 11.5% with a private tutor, 6% at a language school, 3% with parents, 2% at a refugee camp, and less than 1% with relatives or at an ESL school. Of those students studying English before moving to Canada, 11% studied for 6 months or less, 17% for 7 to 12 months, 16% for 13 to 24 months, 11% for 25 to 36 months, and 44% for longer than 36 months. The vast majority of students, 63%, studied English for 1 to 6 hours per week, while 4.5% studied less than 1 hour per week, 7.7% studied between 7 and 10 hours per week, 5.8% studied 10 to 15 hours per week, and 18.7% studied more than 15 hours per week. Other than through formal study, approximately 72.5% of students were exposed to English "hardly ever" or "not at all", 18.2% were exposed to English "daily or almost daily", and 7.1% were exposed to English "at least once per week".

Prior to moving to Canada, only a small percentage (1-3%) of students were rated by their parents as "excellent" in their ability to communicate (speak, listen, read, and write) in English. Approximately 8-9% were rated as "good", 9-13% were rated as "moderately well", 18-21% were rated as "very little", and 54-62% were rated as "not at all".

Before moving to Canada, ~ 69% of students had only one language spoken in their home, ~ 25% had two languages spoken in their home, and ~ 5% had three languages spoken in their home. Less than 1% came from homes where four or five languages were spoken. The first languages spoken most prevalently in the homes of students participating in this study were Cantonese, Persian/Farsi, Russian, and Spanish. These languages accounted for 42.6% of first languages.

At the time of the parent interview, approximately 41% of homes reported speaking one language only, 47% reported speaking two languages, 11% reported speaking three languages, and 1% reported speaking four languages. Approximately 9% of homes spoke English as their first language, approximately 71% spoke English as their second language (in homes where at least two languages were spoken), and approximately 49% spoke English as their third language (in homes

where at least three languages were spoken). Based on the foregoing information, one can see that, for the seven LOR groups combined in this study, single-language homes decreased approximately 28% after families moved to Canada -- and one can further see that two-language homes increased approximately 22%. Before moving to Canada, approximately 67% of students were rated as being able to speak one language fluently, and approximately 27% were rated as being able to speak two languages fluently. Approximately 5% could speak three languages fluently, while less than 1% could speak four languages fluently.

Approximately 4% of students, at the time of this survey, were rated as being able to speak only one language fluently, while 80% could speak two languages fluently, 14% could speak three languages fluently, and 1% could speak four languages fluently. In order of fluency, approximately 36% of students were rated as speaking English as their most fluent language. For those students speaking two languages fluently, approximately 60% were rated as speaking English as their second most fluent language; and for those students speaking three languages fluently, approximately 13% were rated as speaking English as their third most fluent language. Based on the above information, one can see that, for the seven LOR groups combined in this study, students speaking only one language fluently decreased approximately 63% after families moved to Canada -- and students speaking two languages fluently increased approximately 53%.

At the time of the survey, for 67% of students, English was spoken by them at home less than half the time. Sixteen percent spoke English about half the time, and 17% spoke English more than half the time.

Approximately 8% of students received private tutoring in English at some point after their arrival in Canada. Of these 8%, approximately 73% were tutored for one year or less. Approximately 18% were tutored for 1-2 years, and 9% were tutored for longer than two years. During their tutoring, the majority of students (77%) were tutored 1-3 hours per week. Fourteen percent were tutored 4-6 hours per week, while 9% were tutored 7-12 hours. No students received tutoring for more than 12 hours per week. The preceding information would seem to indicate that only a relatively small percentage of ESL students in this study received private tutoring, and approximately 2% overall received tutoring for longer than one year.

Eighty-two percent of parents expressed satisfaction with their children's progress in learning English. Of the 18% who were not satisfied with their children's progress, reading, writing, and rate of progress were cited as the most frequent causes of their dissatisfaction. These causes comprised approximately 57% of parental reasons for dissatisfaction. "Associating too much with other native language speakers" accounted for approximately 11% of causes for dissatisfaction.

In general, children's ability for native language expression appeared to weaken after coming to Canada. Only 2% were rated as "much stronger" in their native language, and 7% were rated as "somewhat stronger". 45% were rated as "about the same", while 35% were rated as "somewhat weaker", and 10% were rated as "much weaker". Less than 1% were rated as "never uses native language".

For those students whose native language ability was not as strong as when they first came to Canada, two predominant reasons (which comprised 89% of responses) were given: there was less exposure to their native language, and there was more exposure to English, at home, at school, and with friends.

Only 6% of respondents felt that, because of a weakening of native language proficiency, communication problems existed in the home. Of these 6%, 80% attributed the communication problems to the child speaking English, while the parent did not speak English. The other 20% attributed communication problems to their children's limited native language ability.

Approximately 18% of parents had concerns about their children's language development "in any language". Main concerns centered around losing the ability to read, write, and communicate in their native language and to communicate with relatives.

Forty-eight percent of students in this survey had attended two schools since moving to Canada. Twenty-three percent had attended three schools, 18% had attended one school, 7% had attended four schools, 3% had attended five schools, and less than 1% had attended six or more schools. The fact that most students attended at least two schools is attributed to the age of students who participated in this study and the organization of panels within the North York Board of Education. In North York most students change panels when they enter Middle School in Grade 6 or Junior High School in Grade 7. Consequently, most subjects taking part in this investigation (who were largely in Grade 7) would have experienced at least one school change.

Since moving to Canada, approximately 6% of students did not attend school for a period of one month or longer (not including summer vacations). Of this group 83% did not attend school for a period of 1-3 months, and 17% did not attend school for a period of 4-6 months. Reasons for non-attendance related to physical problems, not having appropriate immigration papers, and not being settled/looking for a place to live. Although only a relatively small percentage of students comprised this category (for not attending school for at least one month), there is a suggestion of lost educational opportunity for these youngsters, at a time when they perhaps are in greatest need of an educational experience.

Approximately 3% of parents/guardians believed that medical factors may have interfered with their children's learning English. Although numbers were limited, medical factors cited included impaired vision, facial paralysis, allergy, speech impediment, and impaired hearing.

When male parents/guardians were surveyed as to their highest educational level attained, the responses with greatest frequency were completion of college/university (~46%) and completion of high school (~23%). Those completing a post college/university course numbered approximately 10%, while those in all other categories (0-5 years of schooling, 6-8 years of schooling , some high school, some college/university) ranged from ~3% to ~7%.

When female parents/guardians were surveyed as to their highest educational level attained, the responses with greatest frequency were completion of college/university (~36%) and completion of high school (~34%). Those who attended school 6-8 years (~9%) and those who attended some high school (~8%) comprised the next highest categories, while those in all other categories (0-5 years of schooling, some college/university, completed a post college/university course) ranged from ~2% to ~6%. The preceding information suggests that, as a group, the parents of students participating in this study are reasonably well educated -- with 79+% of males and 70+% of females having completed at least high school.

When asked the open-ended question as to what other information might be useful in terms of understanding their children's English language development, parents cited a variety of factors ranging from academic strengths and weaknesses, to friends who speak or do not speak English, to parent communication with the school, to student personality and attitude toward school.

When interviewers were asked if they had comments that might be helpful in understanding students' English language development, ~16% responded "yes". Factors cited included such items as previous schooling in/exposure to English, private tutoring, extent of English spoken in the home, family factors (student separated from parents, parents separated from each other, parents busy at work), lack of previous schooling before coming to Canada, and refugee camp experience.

Parent Interview Results By LOR

With respect to status in Canada, it would appear that in LOR1 and LOR2, the number of students becoming Canadian citizens is negligible, 0% and ~2% respectively. At LOR3, numbers increase to ~6%; at LOR4, numbers increase to ~9%; at LOR5, numbers increase to ~21%; at LOR6, numbers increase to ~36%; and by LOR7, numbers increase to ~76%. As percent of students becoming Canadian citizens increases, percent of students classified as landed immigrants decreases. Landed Immigrant status increases unevenly from ~63% to ~77% for students in LOR1 through LOR4. Then it tapers off to ~73% in LOR5, to ~48% in LOR6, and then to ~24% in LOR7.

With respect to home language, trends were noted for both one- and two-language homes. Students coming from homes where only one language was spoken, prior to moving to Canada, numbered approximately 68%. After moving to Canada and living in Canada over a 6 year period, this number decreased to approximately 20%. During LOR1, LOR2, and LOR3, this decrease appeared rather modest; but beginning with LOR4 and continuing throughout LOR7, the decrease became more noticeable. Students coming from homes where two languages were spoken, prior to moving to Canada, numbered approximately 26%. After moving to Canada and living in Canada over a 6 year period, this number increased to approximately 72%. Increases were modest and inconsistent during the LOR1 through LOR6 stages but became noticeable during LOR7. Although interpretation of these percentages should be viewed with caution, it would appear that it takes approximately two years for single-language families to begin to introduce a second language into their home, and even after six years, 20% of families remain monolingual. It would further appear that the incidence of bilingual homes, in the first five years after moving to Canada, increases slowly and inconsistently from 26%, prior to moving to Canada, to the 32-54% range during the LOR1 to LOR6 years; after that however, in LOR7, the increase in number of bilingual homes becomes more noticeable, approximating 72%.

Of the ~9% of respondents who reported English to be the first language in their home, the adoption of English was slow and gradual: 0% at LOR1, ~2% at LOR2 , and gradual increments to 24% at LOR7.

Approximately fifty-nine percent (~59%) of homes surveyed in this study were multi-lingual, and of this group ~70% spoke English as their second language. This would suggest that ~41% of the total homes surveyed spoke English as their second language. When total homes surveyed were examined by LOR for English as a second language, no identifiable patterns emerged. When examined in terms of LOR for multi-lingual homes only (as opposed to the entire surveyed population), there was an initial 55% of homes in LOR1 where English was spoken as a second language. Then, after an initial increase at LOR2, there appeared to be a decline in the use of English (as opposed to other languages) as a second language from LOR2 (83%) through LOR7 (~58%). One might assume that, as English increases and becomes the primary language spoken in homes, its usage as a secondary language would decline. However, it is to be pointed out that, even after as many as six years in Canada, English was the primary language of only 24% of homes surveyed and the second language of 41% of homes.

Prior to moving to Canada, 66% of students in this survey were rated by their parents as being fluent in only one language, 28% in two languages, 5% in three languages, and less than 1% in four languages. After moving to Canada, 4% of students were fluent in only one language (a decrease of 62%), 80% in two languages (an increase of 52%), 15% in three languages (an increase of 10%), and 1% in four languages (a negligible increase). One can readily see that single-language students decrease, as a new language is added to their repertoire, and the number of two- and three-language students increases as these students learn a new language.

Thirty-six percent of parents/guardians responded that English was their child's most fluent language. One could see the increase in English as first language fluency from LOR1 (~13%) to

LOR7 (~72%). LOR6 appeared to be the turning point at which more than 50% of students were deemed to be most fluent in English. These findings suggest that, even after 6 years, only ~72% of students are considered by their parents/guardians to be most fluent in English. For the ~59% of students whose second most fluent language was deemed to be English, there was a slight increase from LOR1 (~73%) to LOR3 (~85%), and then there was a noticeable decline from LOR4 (~61%) to LOR7 (~28%). LOR6 appeared to be the turning point at which less than 50% of students were rated as having English as their second most fluent language. Even after 6 years, however, it appears that English is still only the second most fluent language for 28% of ESL students.

With respect to students who spoke English at home, those speaking English half the time or less comprised ~84% of all students surveyed. Due to limited numbers of subjects, it is again difficult to draw conclusions from the above data. However, it would appear that, during LOR1, ~8% of students speak English at home more than half the time, and by LOR4, ~16 % speak English at home more than half the time. By LOR7, ~32% speak English at home more than half the time, with the responses "quite a lot" (16%) and "all or almost all" (4%) accounting for a substantial portion of this number. It is interesting to note that, by LOR7, after six years in Canada, ~44% of students still speak English at home less than half the time, with "very little" (20%) and "none at all" (4%) accounting for part of this number.

With respect to parents' satisfaction with their children's progress in learning English, overall, the vast majority of parents (82%) indicated that they were satisfied. Satisfaction appeared to increase slightly as LOR increased. Conversely, among dissatisfied parents, the largest numbers (~38%) tended to cluster at LOR1 and decrease slightly thereafter.

When asked to compare their children's current ability for native language expression to when they first moved to Canada, overall, ~9% felt it was stronger, ~46% felt it was weaker, and ~45% felt it was about the same. While at LOR1 ~29% felt native language expression was weaker, by LOR4, this number increased to ~49 %, and by LOR7, this number increased to ~64%. While on the one hand, it is not unexpected to find that, for approximately two-thirds of ESL students, their ability for native language expression weakens after six years -- on the other hand, it is interesting to note that, for approximately one-third of ESL students, after six years in Canada their native language is not weaker.

Multiple Regression Analysis - Background Variables Influencing Test Scores

In this part of the investigation an attempt was made to determine which background variables, as determined by the parent questionnaire, mainframe computer data, and MAT-SF testing, had the greatest influence on student achievement, as determined by test performance. To make such a determination, a multiple regression analysis was conducted on each of 13 separate tests (not 14, as the MAT-SF was used as a background variable), examining them in view of a variety of background variables.

For five of the thirteen tests administered in this study, no background variables were found to have a significant influence on test scores. Of the eight tests for which there were significant influences on test scores, five of these tests were influenced by one variable only, two tests were influenced by two variables, and one test was influenced by three variables. Gender (in favor of females) was found to have a significant influence on three writing measures: the TOWL-2SM, TOWL-2CSp, and TOWL-2Tot. MAT-SF performance was found to have a significant influence on the TOWL-2CSt, and the educational level of the female parent was found to have a significant influence on the MAC-ORX. The educational level of the female parent and primary language (students from Romance language backgrounds enjoyed an advantage over students from non-Romance language backgrounds) were both found to have a significant influence on the PPVT-R; and amount of previous schooling and the educational level of the female parent were found to have a significant influence on the DTLA-2WO score.

As suggested above, performance on the TOWL-2CSt was found to be significantly related to performance on the MAT-SF. While this finding may, at first glance, seem unusual, it is not totally surprising, as both tests seem to require similar thought processes. On the TOWL-2CSt, scoring is based on the subject's spontaneous use of proper capitalization and punctuation in his/her spontaneously written stories. Knowledge of rules, reasoning as to when the rules apply, and the ability to juggle multiple requirements simultaneously are important qualities needed to perform successfully on this task. On the MAT-SF, although it is a visual reasoning task as opposed to a writing task, a subject needs to possess qualities similar to those outlined above, in order to achieve success.

Three tests were found to be significantly related to the educational level of the female parent/guardian: the MAC-ORX, PPVT-R, and DTLA-2WO. Two of these tests (MAC-ORX and DTLA-2WO) portray varying aspects of oral expressive language ability, and one (PPVT-R) reflects receptive language ability in the form of receptive vocabulary development.

The PPVT-T was found to be significantly related to a second variable: primary language, as defined by Romance vs. non-Romance languages. Those students from Romance language backgrounds tended to significantly outperform students from non-Romance language backgrounds, at least throughout LOR3 (up to two years in Canada), which is as far as this investigation was taken with the PPVT-R. This finding is not beyond expectation, as there is a similarity in root words between English and other Romance languages; and when required to point to pictures coinciding with uttered English words, Romance language students would seem to enjoy an advantage, at least in their initial stages of arrival in their new country. Unfortunately, due to resource limitations, it was not possible to examine the Romance language vs. non-Romance language issue through LOR7 (or beyond), to determine if there was a point at which non-Romance language students caught up to their Romance language counterparts.

The DTLA-2WO was also found to be significantly related to a second variable: previous schooling in native country. Previous schooling was defined by a formula, taking into consideration years of school attendance, hours per day of school attendance, and regularity of school attendance. Consequently, one might anticipate that students attending school in their native country, for longer periods of time, would have arrived in Canada at a later age than students attending school in their native country for shorter periods of time. Following this line of reasoning, one might further anticipate that students with more previous schooling in their native country would perform more poorly on the DTLA-2WO, as their length of residence in Canada would be shorter, and they would not have had the same opportunity to develop their expressive English language skills to the same degree as students in Canada for longer periods of time. This line of reasoning was not supported by the multiple regression analysis, a finding which might better be explained by Collier. Collier (1989) suggested that 8 to 12 year old students, who had several years of L1 schooling and an opportunity to develop concepts in their native language, were the most efficient learners of L2 school language. If this were the case in the present study, it might help account for the influence of previous schooling on DTLA-2WO results; however, in the opinion of this writer, it is doubtful that such an explanation could supersede the influence of long LOR vs. short LOR -- and it is peculiar that the DTLA-2WO would be the only test influenced by previous schooling in this manner.

The Degrees of Reading Power was the only test found to be related significantly to three background factors: the MAT-SF, LOR, and the educational level of the male parent. The LOR relationship, on the surface, would seem self-explanatory, in that the longer a student resides in Canada, the more English education that student receives and the more proficient that student becomes in educational activities, such as reading comprehension. However, this line of reasoning falls short because if it were true, it would apply to other tests besides the DRP; and results clearly indicated that the DRP was the only test influenced significantly by the LOR variable. The MAT-SF relationship to the DRP may be explained, at least in part, by the fact that both the DRP and MAT-SF contain sizable elements of CALP (cognitive-academic learning

BEST COPY AVAILABLE

potential) and are visual in nature. No explanations are offered as to why there appears to be a significant relationship between the DRP and educational level of the male parent.

An overview of findings of the multiple regression analysis may suggest that gender is an important variable in influencing aspects of spontaneous writing, that the educational level of the female parent is an important variable in influencing aspects of expressive and receptive language, and that visual reasoning ability (MAT-SF) is an important variable in influencing aspects of writing mechanics (capitalization and punctuation) and reading comprehension. The word "important" in the preceding statement must be viewed as relative in that not any of the background variables examined accounted for more than 24.2% of the variance associated with any one test.

Caution must be exercised in interpreting the preceding information since, up to this point, predictor variables have been viewed only in isolation. The interaction among these variables is yet to be examined, and the possibility exists that such interaction may significantly affect the current multiple regression analysis interpretation. Further analysis of variable interaction is suggested for the future.

BEST COPY AVAILABLE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The primary objective of this study was to determine the feasibility of establishing achievement criteria for ESL students based on their age and length of residence in their new country. Such criteria were seen as potentially useful in permitting comparisons between the academic/linguistic development of ESL students and the academic/linguistic development of both native-born, English-speaking students and other ESL students of similar age and similar LOR. By comparing ESL students to native-born, English-speaking students, one can see how far ESL students have progressed in relation to the native English-speaking norm. By comparing ESL students to other ESL students, of similar age and similar LOR, one can assess the progress of students relative to their ESL peer group, thereby minimizing the influence of ESL factors on their performance. With the availability of ESL achievement data, assessors can offer more accurate judgments as to the normality of student progress, the existence of possible language-based disabilities (as opposed to normal ESL lags), and the need for remedial intervention. ESL achievement criteria may also reveal a better understanding of ESL patterns of development for different ages and different areas of achievement. Additional objectives of this study were to examine the way teachers perceive and rate ESL student progress, based on a Teacher Rating Scale developed for this project -- and to investigate the influence of a variety of background factors on academic and linguistic development, based on extensive parent/guardian interviews.

Three hundred twenty-eight students participated in this project, of which 285 were experimental subjects and 43 were controls. All participants were 12 years of age at the beginning of the study. The experimental group students were born outside of Canada, and their primary language was a language other than English. They represented 38 languages and 53 countries of origin. They had lived in Canada for time periods ranging from 6 months through 6 years and were divided into seven categories, based on their LOR. The experimental group was 46.3% female and 53.7% male. Eighty-three percent were in Grade 7, 15.6% were in Grade 8, and 1.4% were in Grade 6. The control group students were all born in Canada, and their primary language was English. Females comprised 48.8% of this group, and 51.2% were males. Grade 7 students accounted for 92.9% of controls, and the remaining 7.1% were in Grade 8. Socio-economic data were not available on students participating in this study, however, their "dwelling type" was known. For the experimental group, 28.1% lived in single detached homes, 5.6% lived in semi-detached homes, 9.5% lived in townhouses, 5.6% lived in low-rise apartments, and 49.5% lived in high-rise apartments. For the control group, 41.9% lived in single detached homes, 4.7% lived in semi-detached homes, 11.6% lived in townhouses, 9.3% lived in low-rise apartments, and 32.6% lived in high-rise apartments. A condition for participation in the study was written parental consent. Students who had been formally identified as recipients of Special Education assistance were excluded from the investigation.

The academic and linguistic development of all students participating in the study was assessed by a series of individual and group tests and by teacher ratings. Background information on students was derived from the North York Board of Education's mainframe computer and from parent/guardian interviews, which were conducted in the primary language of the parent/guardian whenever possible. All data were then statistically analyzed by the MECA (Measurement, Evaluation, and Computer Applications) Department at the Ontario Institute for Studies in Education.

Test Results

Data derived from this study suggest that it is indeed feasible to establish achievement test criteria for ESL students, based on their age and length of residence in their new country. This conclusion is based on mean scores obtained for the various tests administered in this study, at each LOR level, and on the manner in which scores were distributed across the various test score ranges. Use of this data should assist teachers, consultants, and assessors in identifying at-risk ESL students more accurately at various LOR levels, monitoring student progress, and programming

more effectively. It would appear that some tests are more discriminating than others in evaluating ESL academic/linguistic progress at various LOR levels, and it is imperative that tests be selected with the utmost care, involving field-testing prior to usage. The present investigation suggests that, for 12 year old ESL students, the following tests would be useful in conjunction with their obtained achievement test data: PPVT-R, DTLA2-WO, MAC-ORX, MAC-LC, DRP, TOWL-2TM, TOWL-2CV, TOWL2-SM, and TOWL-2Tot. Achievement criteria associated with these tests are found in the "Results" section of this paper, under the headings "Test Results by Length of Residence" and "Percentile Tables for Test Scores by Length of Residence." Tests found not to be as discriminating in the evaluation of ESL academic/linguistic progress were the MAT-SF, WJ-PC, WJ-WS, TOWL-2CSp, and TOWL-2CSt.

From the tests found useful in evaluating 12 year old ESL students, based on their LOR, the following trends were observed. On the PPVT-R, a measure of receptive vocabulary development, students who had lived in Canada from 18 to 23 months (the longest LOR assessed for the PPVT-R in this study) scored at the level of children less than 5 1/2 years of age. ESL students, whose LOR's were 60 through 71 months, were also found to lag noticeably behind their native-born, English-speaking counterparts on measures of providing word opposites (DTLA-2WO), oral expression (MAC-ORX), listening comprehension (MAC-LC), and reading comprehension (DRP). Written language skills (TOWL-2) of ESL students, who had resided in their new country from 60 through 71 months, were also found to lag behind their native-born, English-speaking counterparts, but not to the same extent as the lags described above.

Teacher Rating Scale Results

The present investigation also shed light on the way teachers perceive and rate ESL student progress. Based on Teacher Rating Scale data, it would appear that in the areas of speaking, listening, and reading, ESL students first achieve a hypothetical, native-born Canadian mean in the LOR4 group, that is, after being in their new country 24 to 35 months. In the area of writing, ESL students take somewhat longer to achieve this hypothetical, native-born Canadian mean. Based on teacher ratings of written language, ESL students approach comparability with native speakers of English at LOR7, but full comparability is still not achieved after being in Canada 60 to 71 months. There is strong evidence to suggest that teacher ratings of ESL students are inflated. When one examines test results of ESL students in the areas of speaking, listening, reading, and writing, these students fail to achieve comparability with their Canadian-born, English-speaking counterparts even after 60 to 71 months in their new country. It is speculated that the tendency of teachers to over-rate ESL students has its roots in their perceptions being more influenced by everyday, surface communication skills than by less visible cognitive aspects of their functioning.

It is interesting to note that teachers tended to rate native-born Canadian control students, as a group, slightly higher than middle average. If ESL students were compared directly to the control group, as opposed to a hypothetical mean (rating of 4 in this study), not any of the LOR groups, even after six years, would have attained the control group rating in any of the four areas assessed. Comparison of the experimental students to the control students approximated actual test results much more closely than comparison of the experimental students to a hypothetical mean.

When teachers were asked to rate students (on the variables of speaking, listening, reading, and writing) in the seven LOR groups in relation to a hypothetical mean of other ESL students of similar age and similar LOR, as anticipated, there were no significant differences among the means of the seven LOR groups rated. However, it was observed that teachers tended to rate ESL students higher than average at each LOR level, on all four variables. It is speculated that teachers tend to over-rate ESL students for two reasons: (1) they are generous in their perceptions of ESL students and want to give them the benefit of any doubt; and (2) they have not developed sufficient empirical or "intuitive" norms for ESL student achievement, based on the age and length of residence of those students.

A further observation was made when teachers were asked to compare ESL students to a hypothetical mean of other ESL students of similar age and similar LOR. Teachers tended to rate ESL students in the LOR4 through LOR7 categories consistently higher than students in the LOR1 through LOR3 categories, in the areas of speaking and listening. One possible explanation for this phenomenon is that, although teachers tend to over-rate all ESL students, they may perceive the progress of students who have not yet acquired native-like, everyday oral communication skills in a less favorable light than students who have already acquired such skills.

One additional finding with respect to teacher ratings was that, not unexpectedly, there was a significant negative linear relationship between LOR and amount of special support received by ESL students outside of normal classroom time. It was observed that the largest decline in mean hours of special support occurred between the LOR3 and LOR4 periods, and again it is speculated that, when ESL students acquire observable, native-like, everyday communication skills, they are perceived by their teachers as more highly functioning and less in need of extra support.

Correlation of Test Scores with Teacher Rating Scale Results

When test scores (fourteen maximum) and teacher ratings (nine maximum) were correlated for all experimental and control group subjects combined, highly significant correlations were obtained for all possible combinations. This finding attested to the validity of the test results, teacher ratings, and general methodology employed in this investigation.

When teacher ratings of ESL students, at each LOR level, were correlated with tests purported to measure the same area of functioning as the ratings themselves, strong, positive correlations occurred at six out of the seven LOR levels. Teachers appeared quite adept at rating ESL students at the LOR1, LOR2, LOR6, and LOR7 levels (whether comparing them to native-born, English-speaking students or to other ESL students), with all correlations at these levels being significant. Strong correlations were also obtained at the LOR4 and LOR5 levels (with seven of eight correlations at each level being significant), but at the LOR3 level, teacher ratings tended to weaken, with only four out of a possible twelve ratings correlating significantly with corresponding tests. Again, rating of ESL students around the LOR3 level appeared to present the greatest challenge for teachers.

Parent Interview Results - Overall

Findings in this part of the investigation were used largely to describe and obtain background information about the experimental group. Approximately 95% of students participating in this study attended school prior to coming to Canada, and the vast majority of these students attended school on a regular basis and for a minimum of four hours a day. Approximately 13% attended schools where English was the main language of instruction, and approximately another 13% attended schools where English was the second language of instruction. Overall, approximately 54% studied at least some English either at school or outside of school, prior to coming to Canada. Of those students who studied English, approximately 44% studied English for longer than 3 years.

At the time of the study, English was the first language spoken in approximately 9% of the homes and the second language spoken in approximately 41% of the homes. English was the most fluent language of approximately 36% of students and the second most fluent language of approximately 59% of students. For approximately 67%, English was spoken by them at home less than half the time. Approximately 82% of parents expressed satisfaction with their children's progress in learning English, and approximately 8% of students received private tutoring in English some time after their arrival in Canada. Approximately 46% of students were rated as weaker in their native language after coming to Canada, and another 45% were rated as about the same. In about 6% of the homes surveyed, communication problems existed between parents and children due to weakening of the children's native language proficiency and the inability of the parents to speak English.

Approximately 6% of students did not attend school for a period of at least one month (exclusive of summer vacations) after moving to Canada. Reasons for this lack of attendance related to physical problems, immigration status, and the family not yet being settled. Approximately 3% of parents believed that medical factors interfered with their children's learning English. Parents of students participating in this study appeared to be reasonably well educated, with 79+% of males and 70+% of females having at least completed high school.

Parent Interview Results by LOR

With respect to residential status in Canada, Canadian citizenship increased steadily from LOR1 through LOR7. The largest increases occurred between LOR4 and LOR5 (9% to 21%), between LOR5 and LOR6 (21% to 36%), and between LOR6 and LOR7 (36% to 76%).

Approximately 68% of students came from monolingual homes, prior to coming to Canada. After living in Canada for 60 through 71 months, this number decreased to approximately 20%, with the more noticeable decreases occurring after LOR4. Viewing the data by LOR, there are suggestions that It takes approximately two years for single language families to begin to introduce a second language into their homes, and even after six years, 20% of families still remain monolingual.

Approximately 26% of students came from bilingual homes, prior to moving to Canada. After living in Canada for 60 through 71 months, this number increased to approximately 72%, with the more noticeable increases occurring at LOR7.

After living in Canada for up to six years (all LOR's cumulatively), English was found to be the primary language of approximately 9% of homes surveyed; and even at LOR7, only approximately 24% of student homes spoke English as their first language. There did appear to be a slow and gradual adoption of English as the primary language in homes from LOR1 through LOR7.

After living in Canada for up to six years (all LOR's cumulatively), English was found to be the second language of 41% of homes surveyed. When examined in terms of LOR for total homes surveyed, no identifiable patterns for English-as-a-second-language homes were noted. When examined in terms of LOR for multi-lingual homes only, there appeared to be a decline in the use of English (as opposed to other languages) as a second language from LOR2 (83%) through LOR7 (~58%). Presumably, this decrease was a result of changeover from English as a second language to English as a first language, as LOR's increased.

Thirty-six percent (36%) of parent/guardians in this study responded that English was their child's most fluent language, and one could see an increase in English as the language of primary fluency from LOR1 (~13%) through LOR7 (~72%). LOR6 appeared to be the turning point at which more than 50% of ESL students were deemed to be most fluent in English; but even after six years in Canada, only 72% of ESL students were considered by their parents/guardians to be most fluent in English.

Approximately fifty-nine percent (~59%) of respondents in this study answered that English was their child's second most fluent language. There was a slight increase in English as a second most fluent language from LOR1 (~73%) to LOR3 (~85%), and then there was a noticeable decline from LOR4 (~61%) to LOR7 (~28%). LOR6 appeared to be the turning point at which less than 50% of ESL students were rated as having English as their second most fluent language. It would appear that, for the first two years in Canada, English is the second most fluent language for the vast majority of new Canadian students, but after two years, English begins to take over as their most dominant language of expression; and this trend continues to LOR6, when more than 50% of ESL students are first rated to be most fluent in English. Even after 6 years in Canada, it would appear that English is still only the second most fluent language for ~28% of students surveyed in this study.

Generally speaking, despite the fact that only by LOR6 are the majority of ESL students rated by their parents/guardians as being most fluent in English, only ~32% of students speak English at home more than half the time, even after being in Canada five to six years.

Most parents (82%) appear to be satisfied with their children's progress in learning English, and satisfaction tends to increase slightly with increased LOR. The largest number of dissatisfied parents tend to cluster at LOR1.

When asked to compare their children's current ability for native language expression to when they first moved to Canada, approximately two-thirds of parents/guardians felt that native language expression was weaker, and there was a gradual trend in native language weakening from LOR1 to LOR7. It was interesting to note that, for approximately one-third of ESL students, their parents did not rate their native language as being weaker, even after six years in Canada.

Multiple Regression Analysis - Background Variables Influencing Test Scores

An attempt was made to determine which background variables, as determined by the parent questionnaire, mainframe computer data, and MAT-SF testing, had the greatest influence on student achievement, as determined by test performance. To make such a determination, a multiple regression analysis was conducted on each of 13 separate tests (not 14, as the MAT-SF was used as a background variable), examining them in view of a variety of background variables.

An overview of findings of the multiple regression analysis suggested that gender might be an important variable influencing aspects of spontaneous writing (with females outperforming males), that the educational level of the female parent might be an important variable influencing aspects of expressive and receptive language, and that visual reasoning ability (MAT-SF) might be an important variable influencing aspects of writing mechanics (capitalization and punctuation) and reading comprehension. The word "important" in the preceding statement must be viewed as relative in that not any of the background variables examined accounted for more than 24.2% of the variance associated with any one test. These results must also be interpreted with caution since the interaction among the predictor variables has not yet been studied -- and such interaction might affect the current multiple regression analysis interpretation. Further analysis of variable interaction is suggested for the future.

General Comment

It is emphasized that one must be cautious in generalizing the results of this study beyond the population upon which it was conducted. In particular, this study focused on 12 year old ESL students whose length of residence in their new country varied from six months through six years. Most were schooled in their native countries, many were exposed to English to some degree before emigrating to Canada, and as a group, their parents were reasonably well educated. The experimental group also reflected the immigration pattern prevalent in North York at the time of the study, with Cantonese, Persian/Farsi, Russian, and Spanish accounting for ~43% of first languages of the students involved. It is further noted that written parental consent was a pre-condition for students to take part in this study, and students formally identified as having Special Education needs were excluded from participation.

Based on the ESL literature and on the findings of this study, there is strong evidence to suggest that the academic/linguistic development of ESL students follows a distinct pattern. It requires years for ESL students to approach native English speakers' norms in a variety of areas; and it appears that, even after six years, full comparability may not be achieved. With this in mind, it would seem prudent to develop separate achievement criteria for these students, based on their age and LOR.

Recommendations

1. Since data derived from this study suggest that it is indeed feasible to establish achievement test criteria for ESL students, based on their age and length of residence in their new country, it is recommended that steps be taken to develop such criteria in a comprehensive fashion. The criteria would be applicable to ESL students representing a variety of linguistic backgrounds, age levels, and LOR periods. Given the magnitude of this undertaking, participation of institutions outside of the North York Board of Education would be needed, such as other school boards, universities, test publishers, and/or government ministries.

2. Given the nature of the increasing multicultural-ethnic-immigrant make-up of the Canadian school population, and particularly of Metropolitan Toronto, it is recommended that government subsidies be sought for the expansion of the present study.

3. In an expanded study, larger number of students would be desirable for each age/LOR cell. With increased numbers of subjects, more refined achievement criteria could be established, such as: students with previous schooling vs. students without previous schooling; students with previous exposure to English vs. students without previous exposure to English.

4. In an expanded study, age levels could include both traditional school age students and adults. It may not be necessary to develop achievement test criteria for all school ages, as every other age level (for 7 year olds, 9 year olds, 11 year olds, etc.) might suffice.

5. In an expanded study, LOR's could extend below the LOR1 level and above the LOR7 level (as defined in this study). Evidence suggests that teachers are more adept at identifying students at LOR1 and LOR2 than at LOR3 and LOR4, and consequently, it may prove advantageous for teachers to try to identify at-risk students as early as possible. Extending LOR levels beyond LOR7 would provide further research data as to when, if ever, ESL students as a group, achieve parity with their English-speaking counterparts.

6. In an expanded study, it is recommended that PPVT-R testing be extended beyond the LOR3 level. Current results appear unexpectedly low for ESL students, and it would seem useful to track the development of receptive vocabulary in the ESL population.

7. Given that teachers seem to over-rate ESL students in general, and particularly ESL students after they acquire surface everyday conversational skills, it would seem useful to provide teachers with instruction and/or resources to enable them to improve their assessment strategies and their ability to identify students who are at risk for learning.

8. With school boards currently embracing group testing as a tool for assessing student progress and curriculum needs, it is crucial that the developmental learning patterns of ESL students be differentiated from the learning patterns of native-born, English-speaking Canadians. To amalgamate test results of ESL students with test results of native-born, English-speaking students creates a distorted statistical mean and provides a disservice to both groups. A common mean tends to dilute standards and expectations for native-born, English-speaking students, and at the same time, overstate standards and expectations for ESL students. Furthermore, the greater the proportion of ESL students within a school population, the greater the distortion effects for the two student groups.

Teacher Rating Scale
ESL Development Research
North York Board of Education

The student named on the attached form has been selected to participate in a North York Board of Education research project. The objective of this project is to determine the feasibility of establishing achievement norms for ESL students, based on their age and their length of residence in Canada. Teacher evaluation of student progress is an important component of this project, and accordingly, teachers are being requested to fill out the attached form. If the student is currently enrolled as "ESL", the student's ESL teacher is being asked to fill out the form. If the student is currently enrolled in a "regular" program, the student's teacher primarily responsible for teaching him/her English is being asked to fill out the form. In this latter situation, the teacher may be the regular classroom teacher, Core teacher, English teacher, or any combination of the above. Consultation between ESL teachers and regular classroom teachers is encouraged. Students are to be rated twice, in each of four areas. For the first set of ratings, the student will be compared to Canadian-born, English speaking students; and for the second set of ratings, the student will be compared to ESL students. Speaking, Listening, Reading, and Writing will be the four areas rated, and for purposes of this survey, the four areas are defined as follows:

Speaking -- the ability to ask questions, answer questions, and express oneself in general conversation, taking into account such factors as comprehension, pronunciation, grammatical structure, vocabulary, and fluency.

Listening - the ability to comprehend questions, statements, and dialogues.

Reading -- the ability to process and understand English prose passages.

Writing -- the ability to express oneself in writing in a meaningful way, taking into consideration such factors as vocabulary, grammar, spelling, and mechanics such as capitalization and punctuation.

The rating system used in this survey is a 7-point scale, with possible ratings ranging from 1 to 7. For example, a score of 1 would represent the lowest score, indicating that this student functions well below average in comparison to other students in the area being evaluated. A score of 4 would mean that this student functions in the average range, relative to the comparison group. A score of 7 would mean that this student functions well above average in relation to the comparison group and surpasses a vast majority of students in the area being evaluated. For uniformity, the 7-point scale is presented on the attached sheet with both label and percentile descriptions.

BEST COPY AVAILABLE

Teacher Rating Scale
ESL Development Research
North York Board of Education

Student _____ Student ID #_____ Age_____
(Surname) (Given Name)

School_____ Grade_____ Date of arrival in Canada_____

1	2	3	4	5	6	7
well below avg.	somewhat below avg.	low average	average	high average	somewhat above avg.	well above avg.
<5%ile	5-15%ile	16-25%ile	26-75%ile	76-85%ile	86-95%ile	>95%ile

The first rating is to compare this student to other students in your school, of the same age, who were born in Canada and whose first language was English. Where would this student rate in comparison to such a group, on a scale of 1 to 7, in the following areas? Please record your rating in the space provided to the right of the achievement area listed below:

Speaking _____

Listening _____

Reading _____

Writing _____

The second rating is to compare this student to other ESL students in your school, of the same age, who were not born in Canada and who have lived in Canada a similar period of time (see date of arrival above). Where would this student rate in comparison to such a group, on a scale of 1 to 7, in the following areas? Please use the same rating criteria as described above and record your rating in the space provided to the right of the achievement area listed below:

Speaking _____

Listening _____

Reading _____

Writing _____

(Please turn to next page)

BEST COPY AVAILABLE

Teacher Rating Scale (Continued)

By placing a check mark in one or more of the following spaces, please indicate this student's current status at school with respect to receiving "extra" academic support.

_____ 1. Regular student, no extra academic support offered beyond that of classroom teacher during normal school hours.

_____ 2. Regular student, <u>unofficial</u> ESL support.

_____ 3. Regular student, <u>unofficial</u> Special Education or Home School Comprehensive support.

_____ 4. Regular student, <u>unofficial</u> support, such as provided by classroom teacher outside of normal school hours, teaching assistant, adult volunteer, or student tutor.

_____ 5. Officially designated ESL student.

_____ 6. Officially designated Special Education or Home School Comprehensive Student.

If the answer to the above question was other than "1", please estimate, in the space below, the total number of <u>hours</u> (to the nearest 1/4 hour) of support this student receives, on average, <u>per week</u>.

_____ hours per week

Name(s) of participating teacher(s): Position (ESL or regular):

_____ _____

_____ _____

BEST COPY AVAILABLE

Teacher Rating Scale
ESL Development Research
North York Board of Education

The student named on the attached form has been selected to participate in a North York Board of Education research project. The objective of this project is to determine the feasibility of establishing achievement norms for ESL students, based on their age and their length of residence in Canada. Both ESL and non-ESL students are to be evaluated in the course of the investigation. Teacher evaluation of student progress is an important component of this project, and accordingly, teachers are being requested to fill out the attached form. If the student is currently enrolled as "ESL", the student's ESL teacher is being asked to fill out the form. If the student is currently enrolled in a "regular" program, the student's teacher primarily responsible for teaching him/her English is being asked to fill out the form. In this latter situation, the teacher may be the regular classroom teacher, Core teacher, English teacher, or any combination of the above. Consultation with other teachers is encouraged where appropriate. Students are to be compared to Canadian-born, English speaking students, in four different areas: Speaking, Listening, Reading, and Writing. For purposes of this survey, the four areas are defined as follows:

Speaking -- the ability to ask questions, answer questions, and express oneself in general conversation, taking into account such factors as comprehension, pronunciation, grammatical structure, vocabulary, and fluency.

Listening - the ability to comprehend questions, statements, and dialogues.

Reading -- the ability to process and understand English prose passages.

Writing -- the ability to express oneself in writing in a meaningful way, taking into consideration such factors as vocabulary, grammar, spelling, and mechanics such as capitalization and punctuation.

The rating system used in this survey is a 7-point scale, with possible ratings ranging from 1 to 7. For example, a score of 1 would represent the lowest score, indicating that this student functions well below average in comparison to other students in the area being evaluated. A score of 4 would mean that this student functions in the average range, relative to the comparison group. A score of 7 would mean that this student functions well above average in relation to the comparison group and surpasses a vast majority of students in the area being evaluated. For uniformity, the 7-point scale is presented on the attached sheet with both label and percentile descriptions.

BEST COPY AVAILABLE

Teacher Rating Scale
ESL Development Research
North York Board of Education

Student _____ Student ID #_____ Age_____
(Surname) (Given Name)

School_____ Grade_____ Date of arrival in Canada_____

1	2	3	4	5	6	7
well below avg.	somewhat below avg.	low average	average	high average	somewhat above avg.	well above avg.
<5%ile	5-15%ile	16-25%ile	26-75%ile	76-85%ile	86-95%ile	>95%ile

Please compare this student to other students in your school, of the same age, who were born in Canada and whose first language was English. Where would this student rate in comparison to such a group, on a scale of 1 to 7, in the following areas? Record your rating in the space provided to the right of the achievement area listed below:

Speaking _____

Listening _____

Reading _____

Writing _____

(Please turn to next page)

BEST COPY AVAILABLE

Teacher Rating Scale (Continued)

By placing a check mark in one or more of the following spaces, please indicate this student's current status at school with respect to receiving "extra" academic support.

_____ 1. Regular student, no extra academic support offered beyond that of classroom teacher during normal school hours.

_____ 2. Regular student, unofficial ESL support.

_____ 3. Regular student, unofficial Special Education or Home School Comprehensive support:

_____ 4. Regular student, unofficial support, such as provided by classroom teacher outside of normal school hours, teaching assistant, adult volunteer, or student tutor.

_____ 5. Officially designated ESL student.

_____ 6. Officially designated Special Education or Home School Comprehensive Student.

If the answer to the above question was other than "1", please estimate, in the space below, the total number of hours (to the nearest 1/4 hour) of support this student receives, on average, per week.

_____ hours per week

Name(s) of participating teacher(s): Position (ESL or regular):

_____ _____

_____ _____

BEST COPY AVAILABLE

Telephone Interview With Parent/Guardian

ESL Norms Research

North York Board of Education

APPENDIX C
Parent Interview Form

Student _____ DOB _____
(Surname) (Given Name)

Student ID # _____ School _____ Grade _____

Student's Length of Residence in Canada _____

Person interviewed _____ Relationship to Student _____

STUDENT BACKGROUND INFORMATION:

1. Country of Birth _____
2. Date of arrival in Canada _____
3. Date started school in North York _____
4. Status in Canada:
   1. _____ Unknown
   2. _____ Canadian Citizen
   3. _____ Landed Immigrant
   4. _____ Application for Landed Immigrant Status has been made
   5. _____ Parent has a work permit
   6. _____ Student has own student visa (Normally fees paid)
   7. _____ Student covered under parent(s) student visa
   8 _____ Minister's Permit
   9. _____ Refugee Claimant (Temporary)
5. With what people does student reside? (Check as many as appropriate)

Mother	1. _____	Brothers or Sisters	4. _____
Father	2. _____	Other Relatives	5. _____
Guardian	3. _____	Other People	6. _____

6. How many schools did your child attend before moving to Canada? (Circle a number that corresponds to the number of schools)

0 1 2 3 4 5 6 >6

If the above answer was "0", go to question #12. If the above answer was other than "0", go to question #7.

7. What was (were) the main language(s) of instruction in the schools attended?

_____ _____

_____ _____

8a What kind of school did your child last attend before moving to Canada? (Chec one)

Public	1. _____	Refugee Camp	3. _____
Private	2. _____	Other	4. _____

BEST COPY AVAILABLE

If above answer was "1", "2", or "3", go to question #9. If above answer was "4", go to question 8b.

8b. Please specify kind of school your child last attended before moving to Canada.

---

9 Before moving to Canada, how many years did your child attend school? (Circle the number of years)

1 2 3 4 5 6 7 8 9 10

10. Before moving to Canada, how many hours per day did your child attend school? (Circle the number of hours per day)

1 2 3 4 5 6 7 8 >8

11. Before moving to Canada, how regularly did your child attend school? (Check one)

All or almost all the time	1. _____	Less than half the time	4. _____
More than half the time	2. _____	Occasionally	5. _____
About half the time	3. _____	Rarely	6. _____

12. Before moving to Canada, did your child study English either at school or outside of school? (Check one)

Yes _____ No _____

If the above answer was No, go to question #16. If the above answer was Yes, go to question #13a.

13a. Before moving to Canada, in what kind of setting did your child study English? (Check one or more of the following)

Public School	1. _____	Private Tutor	4. _____
Private School	2. _____	Other	5. _____
Language School	3. _____		

If above answer was "1", "2", "3", or "4", go to question #14. If above answer was "5", go to question #13b.

13b. Please specify the kind of setting in which your child studied English.

---

14. Before moving to Canada, over what period of time did your child study English? (Please check one)

1 to 3 months	1. _____
4 to 6 months	2. _____
7 to 12 months	3. _____
13 to 24 months	4. _____
25 to 36 months	5. _____
Longer than 36 months	6. _____

BEST COPY AVAILABLE

15. Before moving to Canada, how many hours per week did your child study English? (Check one)

less than 1 hour	1. _____
1 to 3 hours	2. _____
4 to 6 hours	3. _____
7 to 10 hours	4. _____
10 to 15 hours	5. _____
More than 15 hours	6. _____

16. Before moving to Canada, to what extent was your child exposed to English, other than through formal study, such as through relatives, friends, neighbors, TV, radio, books, etc.? (Check one)

Not at all	1. _____
Hardly ever	2. _____
At least once a month	3. _____
At least once a week	4. _____
Daily or almost daily	5. _____

17. Before moving to Canada, to what extent was your child able to communicate in English? (Circle the appropriate number for each method of communication)

	Not at all	Very little	Moderately well	Good	Excellent
a. Speaking	1	2	3	4	5
b. Listening	1	2	3	4	5
c. Reading	1	2	3	4	5
d. Writing	1	2	3	4	5

18a. Before moving to Canada, how many languages were spoken in your home? (Circle one)

1 2 3 4 >4

18b What were these languages, in order of usage? (1) _____

(2) _____ (3) _____ (4) _____

19a. Before moving to Canada, how many languages was your child able to speak at a reasonable level of fluency? (Circle one)

1 2 3 4 >4

19b. What were these languages, in order of fluency? (1)_____

(2)_____(3)_____(4)_____

20a. How many languages are now spoken in your home? (Circle one)

1 2 3 4 >4

20b. What are these languages, in order of usage? (1)_____

(2)_____(3)_____(4)_____

21a. How many languages does your child now speak at a reasonable level of fluency? (Circle one)

1 2 3 4 >4

BEST COPY AVAILABLE

21b. What are these languages, in order of fluency? (1)_____

(2)_____(3)_____(4)_____

22. How much of your child's spoken language at home is now English? (Check one)

None at all	1. _____
Very little	2. _____
Less than half	3. _____
About half	4. _____
More than half	5. _____
Quite a lot	6. _____
All or almost all	7. _____

23. Since arriving in Canada, has your child had private tutoring in English outside of school?

Yes _____ No _____

If the above answer was No, go to question #26a. If the above answer was Yes, go to question #24.

24. For what period of time did your child receive tutoring in English outside of school?

0 to 3 months	1. _____	13 to 24 months	4. _____
4 to 6 months	2. _____	25 to 36 months	5. _____
7 to 12 months	3. _____	>36 months	6. _____

25. How many hours per week did your child receive tutoring in English outside of school?

1 to 3 hours	1. _____	13 to 15 hours	4. _____
4 to 6 hours	2. _____	>15 hours	5. _____
7 to 12 hours	3. _____		

26a. Are you satisfied with your child's progress in learning English? (Check one)

Yes _____ No _____

If above answer was Yes, go to question #27. If above answer was No, go to question #26b.

26b. Why are you not satisfied with your child's progress in learning English?

_____

27. How does your child's ability for native language expression compare now to when he/she first came to Canada? (Check one)

Much stronger	1. _____
Somewhat stronger	2. _____
About the same	3. _____
Somewhat weaker	4. _____
Much weaker	5. _____
Never uses native language	6. _____

If the above answer was "1", "2", or "3", go to question #29a.

If the above answer was "4", "5", or "6", go to question #28a.

BEST COPY AVAILABLE

28a. Why do you think your child's native language is not as strong now as when he/she came to Canada, or why is it never used?

_____

_____

28b. Have there been communication problems between your child and his/her parents as a result of your child losing native language proficiency?

Yes _____ No _____

If above answer was No, go to question #29a. If above answer was Yes, go to question #28c.

28c. Describe the nature of these communication problems? _____

_____

29a. Have you now, or have you in the past, had any concerns about your child's development in his/her native language? (Check one)

Yes _____ No _____

If the above answer was No, go to question #30. If the above answer was Yes, go to question #29b.

29b. What was the nature of your concern about your child's native language development?

_____

30 Since moving to Canada, how many schools has your child attended? (Circle the number of schools)

1 2 3 4 5 6 7 8 >8

31a. Since moving to Canada, has there been a period longer than one month (not including summer vacations) when your child did not attend school? (Circle one)

Yes _____ No _____

If the above answer was No, go to question #32a. If the above answer was Yes, go to question #31b.

31b. For what period of time did your child not attend school while living in Canada? (Check one of the following time periods)

1 to 3 months 1. _____ 13 to 24 months 4. _____

4 to 6 months 2. _____ Longer than 24 months 5. _____

7 to 12 months 3. _____

31c. What was the reason for your child's absence from school?

_____

32a. Are you aware of any medical factors (such as hearing, vision, diseases, illnesses causing lengthy absences, etc.) that might have interfered with your child's learning English? (Check one)

Yes _____ No _____

If the above answer was No, go to question #33. If the above answer was Yes, go to question #32b

32b What are the medical factors that might have interfered with your child's learning English?

_____

BEST COPY AVAILABLE

33. What is the highest level of schooling that your child's male parent/guardian attained? (Check one. If child had more than one male parent/guardian, choose the one who lived with child longest.)

			Circle Yes or No as appropriate
0 to 5 years	1. _____		
6 to 8 years	2. _____		
9 years to end of high school	3. _____	High school completed?	Yes or No
College or University	4. _____	Coll/Univ completed?	Yes or No
Post College or University	5. _____	Post Coll/Univ completed?	Yes or No

34. What is the highest level of schooling that your child's female parent/guardian attained? (Check one. If child had more than one female parent/guardian, choose the one who lived with child longest.)

			Circle Yes or No as appropriate
0 to 5 years	1. _____		
6 to 8 years	2. _____		
9 years to end of high school	3. _____	High school completed?	Yes or No
College or University	4. _____	Coll/Univ completed?	Yes or No
Post College or University	5. _____	Post Coll/Univ completed?	Yes or No

35. Can you think of any other information that might be useful in terms of understanding your child's English language development? If so, please explain.

_____

_____

_____

FOR THE INTERVIEWER:

Based on this telephone interview with the parent/guardian, do you have any comments that you think might be helpful in understanding this student's English language development?

Yes _____ No _____

If Yes, please explain.

_____

_____

_____

Name of Interviewer: _____

Interviewer's Telephone Number: Day _____ Evening _____

BEST COPY AVAILABLE

NORTH YORK
BOARD OF
EDUCATION

5050 Yonge Street
North York, Ontario
M2N 5N8

TEL (416) 225-4661
FAX (416) 225-0297

23 October 1991

Dear Parents:

There are now many students in the North York Board of Education whose first language spoken was a language other than English. To understand better how these students acquire English, and to help these students learn English more easily, the Board of Education is conducting a research project. The project examines the way students progress in speaking, listening, reading, and writing English, and it looks at the way students' thinking skills develop as well. Testing in these five areas will be conducted by qualified staff. Some of the tests will be administered individually. Other tests will be administered in groups. Some of the students tested will have lived in Canada for as little as six months, while other students tested will have lived in Canada for up to six years. Some students who were born in Canada and whose first language is English will be tested for comparison purposes. Teachers will be asked to rate student achievement as well.

Your child's school has been chosen to take part in this project. With your permission, we would like your child to participate. Please sign below to grant such permission, and have your child return this form to school as soon as possible. The testing will be conducted some time over the next few weeks, and results will be used for research purposes. If you have any questions, please feel free to contact your principal or Mr. H. Klesmer at 395-3646.

Thank you for your assistance with our research.

Sincerely,

Marjorie Perkins
Coordinating Superintendent
Student and Family Services

TRUSTEES
Enid Young
Chair
Gem Gershon
Vice-Chair
Ralph A. Bolby
Elsa Chandler
Bob Churchill
Kenneth E. Crowley
John Fulton
Dan Hicks
Sheila Lambertus
Cheryl Meserve
Marlene Scott
Elizabeth Smith
Shelley Shillman
Mar Wong
Veronica Lacey
Director of Education
and
Secretary-Treasurer

I give permission for my child _____ to participate in the
(Child's name)
research project as described above.

_____
(Parent Signature)

BEST COPY AVAILABLE

NORTH YORK
BOARD OF
EDUCATION

5050 Yonge Street
North York, Ontario
M2N 5N8

TEL (416) 225-4661
FAX (416) 225-0297

APPENDIX E

Parent Permission Form - Specific Language

Translations available in:

Arabic	Italian	Punjabi
Cantonese	Korean	Russian
Greek	Mandarin	Spanish
Hebrew	Persian - Farsi	Tamil
		Vietnamese

23 October 1991

Dear Parents:

There are now many students in the North York Board of Education whose first language spoken was a language other than English. To understand better how these students acquire English, and to help these students learn English more easily, the Board of Education is conducting a research project. The project examines the way students progress in speaking, listening, reading, and writing English, and it looks at the way students' thinking skills develop as well. Testing in these five areas will be conducted by qualified staff. Some of the tests will be administered individually. Other tests will be administered in groups. Some of the students tested will have lived in Canada for as little as six months, while other students tested will have lived in Canada for up to six years. Some students who were born in Canada and whose first language is English will be tested for comparison pruposes. Teachers will be asked to rate student achievement as well.

Your child's school has been chosen to take part in this project. With your permission, we would like your child to participate. Please sign below to grant such permission, and have your child return this form to school as soon as possible. The testing will be conducted some time over the next few weeks, and results will be used for research purposes. If you have any questions, please feel free to contact your principal or Mr. H. Klesmer at 395-3646. An interpreter may be arranged if necessary.

Thank you for your assistance with our research.

Sincerely,

Marjorie Perkins
Coordinating Superintendent
Student and Family Services

TRUSTEES
Enid Young
Chair
Gerri Gershon
Vice-Chair
Ralph A. Beltry
Elsa Chandler
Bob Churchill
Kenneth E. Crowley
John Filion
Dan Heap
Sheila Lambrinos
Cheryl Mahar
Thelma Scott
Elizabeth Smith
Sheldon Spielman
Mae Wanner
Lorraine Lacey
Director of Education
and
Secretary-Treasurer

I give permission for my child _____ to participate in the
(Child's name)
research project as described above.

_____
(Parent Signature)

On the reverse side this form is translated into the student's native language.
The parent may sign either this English form or the form on the reverse side.

BEST COPY AVAILABLE

NORTH YORK
BOARD OF
EDUCATION

5050 Yonge Street
North York, Ontario
M2N 5N8

TEL (416) 225-4661
FAX (416) 225-0297

23 October 1991

Dear Parents:

There are now many students in the North York Board of Education whose first language spoken was a language other than English. To understand better how these students acquire English, and to help these students learn English more easily, the Board of Education is conducting a research project. The project examines the way students progress in speaking, listening, reading, and writing English, and it looks at the way students' thinking skills develop as well. Testing in these five areas will be conducted by qualified staff. Some of the tests will be administered individually. Other tests will be administered in groups. Some of the students tested will have lived in Canada for as little as six months, while other students tested will have lived in Canada for up to six years. Some students who were born in Canada and whose first language is English will be tested for comparison pruposes. Teachers will be asked to rate student achievement as well.

Your child's school has been chosen to take part in this project. With your permission, we would like your child to participate. Please sign below to grant such permission, and have your child return this form to school as soon as possible. The testing will be conducted some time over the next few weeks, and results will be used for research purposes. If you have any questions, please feel free to contact your principal or Mr. H. Kleamer at 395-3646. An interpreter may be arranged if necessary.

Thank you for your assistance with our research.

Sincerely,

Marjorie Perkins
Coordinating Superintendent
Student and Family Services

TRUSTEES
Ernie Young
Chair
Cam Cormack
Vice-Chair
Ralph A. Bailey
Elsa Chandler
Bob Churchill
Kenneth E. Crowley
John Fisch
Dan Hicks
Sheila Lambrinos
Cheryl Moscoe
Darlene Smith
Elizabeth Smith
Shelley Sniderman
Mae Wanner
Vanessa Lacey
Director of Education
and
Secretary-Treasurer

I give permission for my child _____ to participate in the
(Child's name)
research project as described above.

_____
(Parent Signature)

BEST COPY AVAILABLE

ORDER OF TESTS ADMINISTERED

SPECIFIC GROUP	INDIVIDUAL TESTS AND ESTIMATED ADMIN. TIMES	GROUP TESTS AND ESTIMATED ADMIN. TIMES
6- & 12-month LOR	1. PPVT-R (15 min.) 2. W-J RC (5 min.) 3. W-J WS (15 min.) 4. DTLA-2 WO (10 min.) 5. MAC OE (13 min.) Total = 58 min.	1. MAT-SF (25 min.) 2. MAC LC * (15 min.) Total = 40 min.
18-month LOR	1. PPVT-R (15 min.) 2. W-J RC (5 min.) 3. W-J WS (15 min.) 4. DTLA-2 WO (10 min.) 5. MAC OE (13 min.) Total = 58 min.	1. MAT-SF (25 min.) 2. MAC LC (15 min.) 3. TOWL-2 (15 min.) 4. DRP (45 min.) Total = 100 min.
24-, 36-, 48-, & 60-month LOR	1. DTLA-2 WO (10 min.) 2. MAC OE (13 min.) Total = 23 min.	1. MAT-SF (25 min.) 2. MAC LC (15 min.) 3. TOWL-2 (15 min.) 4. DRP (45 min.) Total = 100 min.
Control Group	1. PPVT-R (15 min.) 2. DTLA-2 WO (10 min.) 3. MAC OE (13 min.) Total = 38 min.	1. MAT-SF (25 min.) 2. MAC LC (15 min.) 3. TOWL-2 (15 min.) 4. DRP (45 min.) Total = 100 min.

* Please note that 6- and 12-month LOR Students are to be excused from the group testing situation after the MAC LC is administered.

BEST COPY AVAILABLE

BIBLIOGRAPHY

Alderson, J. Charles, Krahnke, Karl J., and Stansfield, Charles W. *Reviews of English Language Proficiency Tests.* Washington D.C.: TESOL, 1987.

Asher, James J. and Garcia, Ramiro. The optimal age to learn a foreign language. Modern Language Journal, 1969, Vol. 38, 334-341.

Asher, James J. and Price, Ben S. The learning strategy of the total physical response: some age differences. Child Development, 1967, No. 38, 1219-1227.

Ausubel, David P. Adults versus children in second-language learning: psychological considerations. Modern Language Journal, 1964, Vol. 48, 420-424.

Buros, Oscar K. *The Eighth Mental Measurements Yearbook, Volumes 1 and 2.* Highland Park, New Jersey: The Gryphon Press, 1978.

Burstall, Clare. Primary French in the balance. Educational Research, June, 1975, Vol. 17, No. 3, 193-198.

Collier, V.P. Age and rate of acquisition of second language for academic purposes. TESOL Quarterly, December, 1987, Vol. 21, No. 4, 617-641.

Collier, V.P. How long? A synthesis of research on academic achievement in a second language. TESOL Quarterly, September, 1989, Vol. 23, No.3, 509-531.

Conoley, Jane C. and Kramer, Jack J. *The Tenth Mental Measurements Yearbook, Volumes 1 and 2.* Lincoln, Nebraska: The Buros Institute of Mental Measurements, the Univesity of Nebraska, 1989.

Cummins, Jim. Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. OISE. 1980.

Cummins, Jim. Age on arrival and immigrant second language learning in Canada: A reassessment. Applied Linguistics, 1981, Vol. 11, No. 2, 131-149.

Cummins, J., Swain, M., Nakajima, K., Handscombe, J., Green, D., and Tran, C. Linguistic interdependence among Japanese and Vietnamese immigrant students. (1984) In C. Rivera (Ed.) Communicative Competence Approaches to Language Proficiency Assessment: Research and Application. Clevedon, England: Multilingual Matters.

Damico, Jack S., Oller, John W., Jr., and Storey, Mary Ellen. The diagnosis of language disorders in bilingual children: surface-oriented and pragmatic criteria. Journal of Speech and Hearing Disorders, Nov., 1983, Vol. 48, 385-394.

DRP Services. *Degrees of Reading Power Norms - All Primary and Standard Forms.* Brewster, New York: Touchstone Applied Science Associates, Inc., 1988.

DRP Services. *Degrees of Reading Power Teacher's Manual - Primary and Standard Forms.* Brewster, New York: Touchstone Applied Science Associates, Inc., 1989.

BEST COPY AVAILABLE

Dunn, Lloyd M. and Dunn, Leota M. *Peabody Picture Vocabulary Test-Revised - Manual for Forms L and M*. Circle Pines, Minnesota: American Guidance Service, 1981.

Ekstrand, Lars H. Age and length of residence as variables related to adjustment of migrant children, with special reference to second language learning. Paper presented at the International Association of Applied Linguistics (AILA) Congress, Stuttgart, 1975, 14 p.

Ekstrand, Lars H. English without a book revisited: Towards an integration of the optimum age and developmental hypotheses in foreign language learning. Didakometry, October, 1978, No. 60, 1-25.

Ervin-Tripp, Susan M. Is second language learning like the first? TESOL Quarterly, June, 1974, Vol. 8, No. 2, 111-127.

Fathman, Ann. The relationship between age and second language productive ability. Language Learning, December, 1975, Vol. 25, 245-253.

Ferris, M. Roger and Politzer, Robert L. Effects of early and delayed second language acquisition: English composition skills of Spanish-speaking junior high school students. TESOL Quarterly, September, 1981, Vol. 15, No. 3, 263-274.

Genesee, Fred. Is there an optimal age for starting second language instruction? McGill Journal of Education, Spring, 1978, Vol. 13, No. 2., 145-154.

Grinder, Robert E., Otomo, Aiko, and Toyota, Winifred. Comparisons between second-, third-, and fourth-grade children in the audio-lingual learning of Japanese as a second language. The Journal of Educational Research, December, 1962, Vol. 56, No. 4, 191-197.

Hamayan, Else, Saegert, Joel, and Larudee, Paul. Elicited imitation in second language learners. Language and Speech, January-March, 1977, Vol. 20, Part 1, 86-97.

Hammill, Donald D. *Detroit Tests of Learning Aptitude*. Austin, Texas: Pro-Ed, 1985.

Hammill, Donald D. and Larsen, Stephen C. *Test of Written Language-2*. Austin, Texas: Pro-Ed, 1988.

Keyser, Daniel J. and Sweetland, Richard C. *Test Critiques, Volumes 1-7*. Kansas City, Missouri: The Test Corporation of America, 1984-88.

Krashen, Stephen D., Long, Michael A., and Scarcella, Robin C. Age, rate and eventual attainment in second language acquisition. TESOL Quarterly, December, 1979, Vol. 13, No. 4, 573-582.

Maculaitis, Jean D'Arcy. *Examiner's Manual for Maculaitis Assessment Program: A Multi-Purpose Test for Non-Native Speakers of English in Kindergarten through Twelfth Grade*. San Francisco: The Alemany Press, 1982.

Mitchell, James V., Jr. *The Ninth Mental Measurements Yearbook, Volumes 1 and 2*. Lincoln, Nebraska: The Buros Institute of Mental Measurements, the Univesity of Nebraska, 1985.

Naglieri, Jack A. *Matrix Analogies Test - Short Form*. Columbus, Ohio: Charles E. Merrill Publishing Company, 1985.

Olson, Linda L. and Samuels, S. Jay. The relationship between age and accuracy of foreign language pronunciation. The Journal of Educational Research, February, 1973, Vol. 66, No. 6, 263-268.

Oyama, Susan. A sensitive period for the acquisition of a nonnative phonological system. Journal of psycholinguistic research, 1976, Vol. 5, No. 3, 261-283.

Oyama, Susan. The sensitive period and comprehension of speech. Working Papers in Bilingualism, 1978, Vol. 16, 1-17.

Patkowski, Mark S. The sensitive period for the acquisition of syntax in a second language. Language Learning, December, 1980, Vol. 30, No. 2, 449-472.

Ramirez, Arnulfo G. and Politzer, Robert L. (1978) Comprehension and production in English as a second language by elementary school children and adolescents. In E. M. Hatch (Ed.) Second Language Acquisition: A Book of Readings. Rowley, Massachusetts: Newbury House Publishers

Rogers, R.S. and Wright, E.N. The school achievement of kindergarten pupils for whom English is a second language: A longitudinal study using data from the study of achievement. Research Service issued by the Research Department of the Board of Education for the City of Toronto. July, 1969.

Saville-Troike, Muriel. August, 1973. Bilingual Children: A Resource Document. Papers in Applied Linguistics. Arlington, Virginia: The Center for Applied Linguistics.

Seliger, Herbert W., Krashen, Stephen D., and Ladefoged, Peter. Maturational constraints in the acquisition of second language accent. Language Sciences, 1975, No. 36, 20-22.

Seright, Linda. Age and aural comprehension achievement in Francophone adults learning English. TESOL Quarterly, September, 1985, Vol. 19, No. 3, 455-473.

Skutnabb-Kangas, T. and Toukomaa, P. 1976, Teaching migrant children's mother tongue and learning the language of the host country in the context of the socio-cultural situation of the migrant family. Helsinki: The Finnish National Commission for UNESCO.

Snow, Catherine E. and Hoefnagel-Hohle, Marian. 1978a. Age differences in second language acquisition. In E. Hatch (Ed.) Second Language Acquisition. Rowley, Mass.: Newbury House. 333-344.

Snow, Catherine E. and Hoefnagel-Hohle, Marian. The critical period for language acquisition: evidence from second language learning. Child Development, 1978b, Vol. 49, 1114-1128.

Snow, Catherine E. and Hoefnagel-Hohle, Marian. Age differences in the pronunciation of foreign sounds. Language and Speech, 1977, Vol. 20, Part 4, 357-365.

Stern, H. H. 1967. Foreign Languages in Primary Education. London, England: Oxford University Press.

Stern, H. H. Optimal age: myth or reality? Canadian Modern Language Review, February, 1976, Vol. 32, No. 3, 283-294.

Walberg, Herbert J., Hase, Keiko, and Pinzur Rasher, Sue. English acquisition as a diminishing function of experience rather than age. TESOL Quarterly, December, 1978, Vol. 12, No. 4, 427-437.

Woodcock, Richard W. and Mather, Nancy. *Woodcock-Johnson Tests of Achievement - Standard and Supplemental Batteries - Examiner's Manual*. Allen, Texas: DLM Teaching Resources, 1989.

Woodcock, Richard W. and Johnson, M. Bonner. *Woodcock-Johnson Tests of Achievement - Standard and Supplemental Batteries - Norm Tables.* Allen, Texas: DLM Teaching Resources, 1989.

Wright, E.N. and Ramsey, C.A. Students of non-Canadian origin: age on arrival, academic achievement and ability. Research Service issued by the Research Department of the Board of Education for the City of Toronto. August, 1970.

Printed by the North York Board of Education
Document Centre